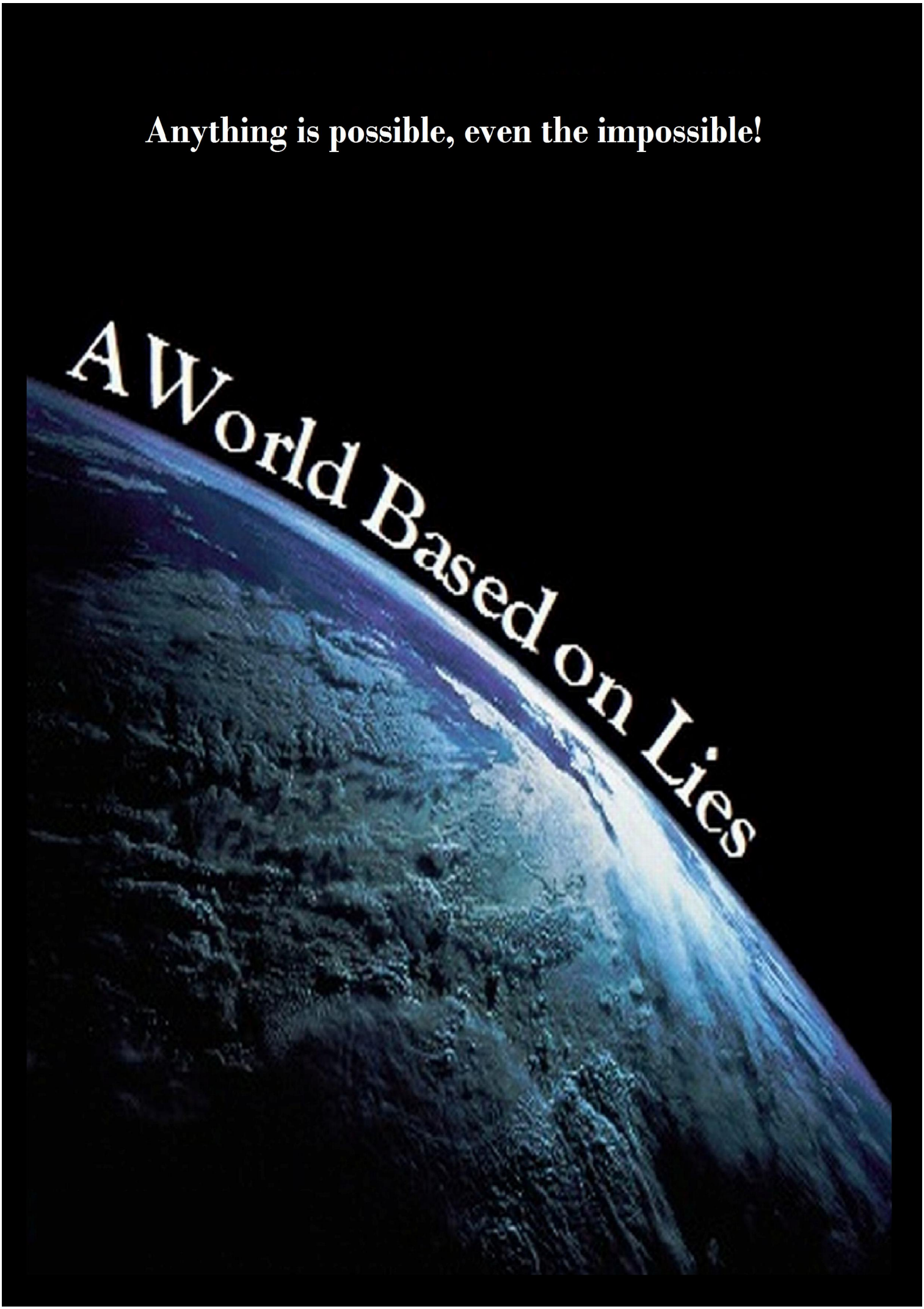
Anything is possible, even the impossible!



A World Based on Lies

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Table of Contents

Introduction:	**American Imperial Taxation**	**4**
Chapter 1:	**Why human society is decaying?**	**10**
Chapter 2:	**The current political and social structure. The power shift.**	**44**
Chapter 3:	**The criminal ruling elite**	**72**
Chapter 4:	**Considerations on the New World Order**	**83**
Chapter 5:	**The World Financial System.**	**93**
Chapter 6:	**The end of humanity or its rebirth?**	**108**
Chapter 7:	**A new era in state administration.**	**140**
Chapter 8:	**Oil, energy and the future**	**150**
Chapter 9:	**Tools for a better world, a better society for a better human being**	**167**
Chapter 10:	**Always a key element: Education**	**197**
Chapter 11:	**Culture in decline**	**221**
Chapter 12:	**Anything is possible, even the impossible!**	**234**

Introduction – American Imperial Taxation

A nation-state taxes its own citizens, while an empire taxes other nation-states. The history of empires, from Greek and Roman, to Ottoman and British, teaches that the economic foundation of every single empire is the taxation of other nations or of their subjects. The imperial ability to tax has always rested on a better and stronger economy, and as a consequence, a better and stronger military that peacefully or militarily enforced the tax. One part of those taxes went to improve the living standards of the empire and the other part went to reinforce the military dominance necessary to enforce those taxes.

Historically, taxing the subject state has been in various forms, usually gold and silver, where those were considered money, but also slaves, soldiers, crops, cattle, or other agricultural and natural resources, whatever economic goods the empire demanded and the subject-state could deliver. Historically, the taxation has always been direct: the subject state handed over the money (gold/silver) or the economic goods directly to the empire.

For the first time in history, in the twentieth century, America was able to tax the world indirectly, not by enforcing the direct payment of taxes like all of its predecessor empires did, but by distributing its own currency, the U.S. Dollar, to other nations in exchange for goods with the intended consequence of devaluing over time those dollars and paying back later each dollar with less economic goods. The difference between the value of the dollar during the initial purchase and the devalued dollar during the repayment was the U.S. imperial tax. Here is how this happened.

Early in the 20th century, the U.S. economy began to dominate the world economy. At the time the U.S. dollar was tied to gold, so that the dollar neither increased, nor decreased its value, but was always convertible into the same amount of gold. The Great Depression with its the preceding inflation from 1921 to 1929 substantially increased the amount of paper money in circulation without the correspondent increase in gold. This rendered the effective backing of the U.S. dollar by gold impossible. As a consequence, President Franklin Delano Roosevelt decoupled the dollar from gold in 1932. Up to this point, the U.S. may have well dominated the world economy, but from an economic point of view, it was not technically an empire. The fixed value of the dollar for gold did not allow the Americans to extract economic benefits from other countries by supplying them with gold-backed dollars.

Economically, the American Empire was born with the establishment of the Bretton Woods system in 1945. The dollar was made only partially convertible to gold, convertibility to gold was available to foreign governments only, but not to private institutions. At this time the US dollar was established as the international reserve currency. This was possible, because during WWII, the United States had supplied its allies with food and military provisions, accepting gold as payment, thus accumulating significant portion of the world's gold.

An economic Empire would not have been possible if the dollar remained fully backed by gold, i.e., if the dollar supply was kept limited and within the availability of gold, so as to exchange back dollars for gold at the pre-agreed exchange ratio. However, the dollar supply was actually increased far beyond its gold backing and handed over to foreigners in exchange for economic goods. There was no prospect of buying back those dollars at the same value, the amount of gold was not sufficient to redeem those dollars, while the quantity of dollars continually increased, so that those dollars constantly depreciated. The constant depreciation of the increasing dollar holdings of foreigners via persistent U.S. trade deficits was tantamount to a tax, an inflation tax.

When in 1971 foreigners demanded payment for their dollars in gold, The U.S. Government defaulted on its payments on August 15. The popular spin of this default was that "the link between the dollar and gold was severed". The proper interpretation is that the U.S. Government went bankrupt, just like any commercial bank is declared bankrupt.

However, by doing so, the U.S. declared itself an Empire. It had extracted an enormous amount of economic goods from the rest of the world, with no intention or ability to return those goods. The world was effectively taxed and it could not do anything about it: it could not force the U.S. in bankruptcy proceedings and take possession of its gold and other assets for payment, nor could it take forcefully what it was owed by declaring war and winning it. Essentially, the U.S. imposed on the world an inflation tax and collected an imperial seigniorage!

From that point on, to sustain the American Empire and to continue to tax the rest of the world via inflation, the United States had to force the world to continue to accept ever depreciating dollars in exchange for economic goods and to have the world hold more and more of those dollars, while those dollars depreciated. It had to give the world an economic reason to hold dollars, and that reason was oil.

In 1971, as it became clear that the U.S. Government would not be able to buy back its dollars for gold, it prepared an alternative arrangement to hold the world hostage to its fiat dollar: during 1972-1973 it struck an iron-clad arrangement with Saudi Arabia, to support the rule of the House of Saud in exchange for accepting only dollars as a payment for Saudi oil. By imposing the dollar on the OPEC's leader, the dollar was effectively imposed on all OPEC members. Because the world had to buy oil from the Arab oil countries, it had the reason to hold dollars as payment for oil. Because the world needed ever increasing quantities of oil at an ever increasing oil prices, the world's demand for dollars could only increase. Even though dollars were no longer exchangeable for gold, they were now exchangeable for oil.

The economic essence of this arrangement was that the dollar was now backed by oil. As long as that was the case, the world had to accumulate increasing amounts of dollars, because those dollars were needed to buy oil. As long as the dollar was the only payment for oil, its dominance in the world was assured, and the American Empire could continue to tax the rest of the world. If, for any reason, the dollar lost its oil backing, the American Empire would cease to exist, because it would no longer be able to tax the world by making them accumulate ever more dollars. Thus, Imperial survival dictated that oil be sold only for dollars. It also implied that oil reserves were spread around various sovereign states that none was strong enough, economically or militarily, to demand payment for oil in something other than dollars. If someone demanded a different payment, he had to be convinced, either by political or by military means, to change his mind.

The man that actually did demand Euro for his oil was Saddam Hussein in late 2000. At first, his demand was met with ridicule, later with neglect, but as it became clearer that he meant his demand and even converted his $10 billion reserve fund at the U.N. into Euro, political pressure was exerted to change his mind. Other countries, like Iran, also wanted payment in other currencies, most notably Euro and Yen. The danger to the dollar was clear and present, so a punitive action was in order. Bush's war in Iraq was not about existing weapons of mass destruction, about defending human rights, about spreading democracy, or even about seizing oil fields. It was about defending the dollar, ergo the American Empire; it was about setting an example that anyone who demanded payment in currencies other than U.S. Dollars would be likewise punished.

Many have criticized Bush for staging the war in Iraq in order to seize Iraqi oil fields. However, those critics can't explain why Bush would need to seize those fields, he could simply print dollars for nothing and use them to get all the oil in the world that he needs. He must have had some other reason to invade Iraq.

History teaches that an empire goes to war for one of two reasons: (1) to defend itself or (2) benefit from war. Economically speaking, in order for an empire to initiate and conduct a war, its benefits must outweigh its military and social costs. Benefits from Iraqi oil fields are hardly worth the long-term, multi-year military cost. Bush went into Iraq to defend the American Empire. Indeed, this is the case: two months after the United States invaded Iraq, the Oil for Food Program was ended, the country's accounts were switched back to dollars, and oil began to be sold once again only for U.S. dollars. No longer could the world buy oil from Iraq with Euro. Global dollar supremacy was once again restored. Bush descended from a fighter jet and declared himself the victor: the mission was indeed accomplished, Bush successfully defended the U.S. dollar, and thus the American Empire.

Iranian Oil Bourse

The Iranian government has proposed to open in March 2006 an Iranian Oil Bourse that will be based on a euro-based oil-trading mechanism that naturally implies payment for oil in Euro. In economic terms, this represents a much greater threat to the hegemony of the dollar than Saddam's, because it will allow anyone willing either to buy or to sell oil for Euro to transact on the exchange, thus circumventing the U.S. dollar altogether. If so, then it is likely that much of the world will eagerly adopt this euro-denominated oil system:

The Europeans will not have to buy and hold dollars in order to secure their payment for oil, but would instead use with their own currency.

The Chinese and the Japanese will be especially eager to adopt the new exchange. It will allow them to drastically lower their enormous dollar reserves and diversify them with Euros. One portion of their dollars they will still want to hold onto; another portion of their dollar holdings they may decide to dump outright; a third portion of their hoards they will decide to use up for future payments without replenishing their dollar holdings, but building up instead their euro reserves.

The Russians have economic interest in adopting the Euro - the bulk of their trade is with European countries, with oil-exporting countries, with China, and with Japan. Adoption of the Euro will immediately take care of the first two blocs, and will over time facilitate trade with China and Japan. Also, Russians seemingly detest holding depreciating dollars, for they have recently found a new religion with gold: their central bank is diversifying out of dollars and accumulating gold. Russians have also revived their nationalism; if embracing the Euro will stab the Americans, they will gladly do it and smugly watch the Americans bleed.

The Arab oil-exporting countries will eagerly adopt the Euro as a means of diversification against rising mountains of depreciating dollars. Just like the Russians, their trade is mostly with European countries, and therefore will prefer the European currency both for its stability and for avoiding currency risk.

Only the British will find themselves between a rock and a hard place. They have had a strategic partnership with the U.S. forever, but have also had their natural pull from Europe. So far, they have had many reasons to stick with the winner. However, when they see their

century-old partner falling, will they firmly stand behind him or will they deliver the coup de grace? Still, we should not forget that currently the two leading oil exchanges are the New York's NYMEX and the London's International Petroleum Exchange (IPE), even though both of them are effectively owned by Americans. It seems more likely that the British will have to go down with the sinking ship, for otherwise they will be shooting themselves in the foot by hurting their own London IPE interests. It is here noteworthy that for all the rhetoric about the reasons for the surviving British Pound, the British most likely did not adopt the Euro namely because the Americans must have pressured them not to: otherwise the London IPE would have had to switch to Euros, thus mortally wounding the dollar and their strategic partner.

At any rate, no matter what the British decide, should the Iranian Oil Bourse gain momentum and accelerate, the interests that matter, those of Europeans, Chinese, Japanese, Russians, and Arabs, will eagerly adopt the Euro, thus sealing the fate of the dollar. Americans cannot allow this to happen, and if necessary, will use a vast array of strategies to halt or hobble the exchange's operations:

Sabotaging the Exchange, this could be a computer virus, network, communications, or server attack, various server security breaches, or a 9-11-type attack on main and backup facilities.

Coup d'état, this is by far the best long-term strategy available to the Americans.

Negotiating Acceptable Terms & Limitations, this is another excellent solution to the Americans. Of course, a government coup is clearly the preferred strategy, for it will ensure that the exchange does not operate at all and does not threaten American interests. However, if an attempted sabotage or coup d'état fail, then negotiation is clearly the second-best available option.

Joint U.N. War Resolution, this will be, no doubt, hard to secure given the interests of all other members of the Security Council. Recent rhetoric about Iranians developing nuclear weapons undoubtedly serves to prepare this course of action.

Unilateral Nuclear Strike, this is a terrible strategic choice for all the reasons associated with the next strategy, the Unilateral Total War. The American will likely use Israel to do their dirty nuclear job.

Unilateral Total War, this is obviously the worst strategic choice. First, the U.S. military resources have been already depleted with two wars. Secondly, the Americans will alienate other powerful nations. Third, major reserve countries may decide to quietly retaliate by dumping their own mountains of dollars, thus preventing the U.S. from further financing its militant ambitions. Finally, Iran has strategic alliances with other powerful nations that may trigger their involvement in war; Iran reputedly has such alliance with China, India, and Russia, known as the Shanghai Cooperative Group, a.k.a. Shanghai Coop.

Whatever the strategic choice, from a purely economic point of view, should the Iranian Oil Bourse gain momentum; it will be eagerly embraced by major economic powers and will precipitate the demise of the dollar.

The Demise of the Dollar

The collapsing dollar will dramatically accelerate U.S. inflation and will pressure short-term and long-term interest rates much higher. At this point, the Fed will find itself between two equally disastrous options, deflation or hyperinflation. The first option, deflation, known in

the international finance literature as the "classical medicine", requires stopping the monetary expansion and raising interest rates, thus inducing a major economic depression, a collapse in real estate prices, and an implosion in bond, stock, and derivative markets, most likely precipitating a total financial collapse. The alternative option is to take the easy way out by inflating, whereby the Fed pegs the long-bond yield, raises the Helicopters and drowns the financial system in liquidity, bailing out numerous LTCMs and hyperinflating the economy.

The Austrian theory of money, credit, and the business cycle teaches us that ultimately there is no in-between the mythological Scylla and Charybdis scenario, between deflation and hyperinflation. Sooner or later, as pressure on the dollar rises and inflation rears its ugly head, the monetary system must swing one way or the other, forcing the Fed to make its choice. There is no doubt that the newly-appointed Commander-in-Chief of the Federal Reserve, Ben Bernanke, an renowned scholar of the Great Depression and an adept helicopter pilot, will choose the latter course of action; hyperinflation. Bernanke has learnt well the lessons of the Great Depression and the destructiveness of deflations. He has also learnt well from the Maestro the panacea of every financial problem, to inflate his way out, come hell or high water. He has even devised ingenious unconventional ways around the deflationary liquidity trap and teaches the Japanese how to apply them. To avoid deflation, he has publicly stated that he will accelerate the printing presses and "drop money from helicopters". If necessary, he will monetize everything in sight. He will ultimately destroy the American currency in Hyperinflation.

Hyperinflations, however, do not happen in an instant. It usually takes years before the final collapse. The Weimar hyperinflation began around 1920 and ended in 1923 with the total destruction of the currency. Similar was the fate of some post-communist countries: it took Russia and Bulgaria 7-8 years to hyperinflate their currencies before they ultimately destroyed them.

However, because the dollar is the reserve currency of the world, hyperinflating the dollar will be fundamentally different in two ways from all hyperinflations in history. On the one hand, there are tens of trillions of dollar-denominated debt and hundreds of trillions of dollar-denominated derivatives. Given that the ratio of currency to debts and derivatives is tiny, the coming hyperinflation must be necessarily of epic proportions. On the other hand, central banks around the world will fight tooth and nail to support the dollar, so that world financial system does not collapse and that their reserves do not evaporate into the nothingness. Many central banks will choose willy-nilly to support the dollar by inflating their own currencies. Thus, these two powerful forces will drive the dollar in opposite directions. Its inevitable demise may be swift and sudden, or it may be protracted and painful.

Whatever the speed of hyperinflation, ordinary Americans will have few available options to protect themselves "during crises, peoples" first instinct is to resort to more "stable" fiat currencies of neighboring countries, like the Canadian Dollar and the Mexican Peso, but their availability will prove limited and complicated as people will most likely have to cope with governmentally-imposed capital controls. Next, people instinctively convert hyperinflating currencies to hard assets like land and real estate, but sellers refuse to accept the hyperinflating currency and quickly disappear from the market. Having run out of meaningful options to protect themselves, ordinary people will have little choice, but to convert their dollars to hard currencies like gold and silver, thus driving their prices much higher. On the other hand, central banks have no other options but gold. First, in times of crises, central banks fear the risk inherent in all fiat currencies. Moreover, not even the largest fiat currencies will accommodate their need to convert their reserves. Also, it is not practical for central

banks to hold real estate and land. Thus, central banks will have no alternative, but to scramble to convert their reserves to the only hard currency known to man; gold. Historically, in times of crises, gold has always been the ultimate safe haven. When people and central banks flee en masse to gold, its value has always skyrocketed. This time, it will be no different.

These are the words of Mr. Petrov Krasimir (PhD) describing the real state of affairs in the world today. The purpose of this book is to approfundate the status of current world paradigm.

There is far more to this world than taught in our schools, shown in the media, or proclaimed by the church and state. Most of mankind lives in an automated status, taking to be reality what is instead a twisted simulacrum of reality, in which values are inverted, lies are taken as truth, and tyranny is accepted as security. They enjoy their ignorance and cling tightly to the misery that gives them identity.

Fortunately, some are born with spiritual immune systems that sooner or later give rejection to the illusory worldview grafted upon them from birth through social conditioning. They begin sensing that something is amiss, and start looking for answers. Inner knowledge and anomalous outer experiences show them a side of reality others are oblivious to, and so begins their journey of awakening. Each step of the journey is made by choosing knowledge over ignorance. Knowledge is the key to unlocking our potential. It gives us the self-determination, responsibility, and power necessary to cast off the chains of covert oppression. Knowledge is therefore the greatest protector, for it also gives us foresight to impeccably handle the challenges of life and, most importantly, to sidestep the traps on the path to awakening. The more you know of higher truths and apply what you know, the more you begin operating under higher laws that transcend the limitations of the lower.

Chapter 1: Why human society is decaying?

The world today is broken. The business people, the financials and the politicians have leaded us to despair. The subculture and the news have populated all our media doing nothing else but fueling hate and confusion among Americans and the whole world. But just how did we manage to end up in all this mess? What can we do about it? Can we do something or it is just too late? I'll try to answer in the following chapters.

History can be devised into levels of development. At the first level, we can distinguish the nomadic period and the cave based units. The peoples can only sustain themselves, the families and their childrens. Level two shows the period in which the peoples had becomes hunter-gatherer capable to sustain a group of persons. Level three presents the period of agricultural revolution capable to sustain a large number of persons including cities populations. Level four it's encountered in the Industrial era capable of sustaining large cities and nations.

Today we are in level five, the technology age, capable of sustaining the whole world and the entire population at a very high standard of living.

As each new level reached, new economic changes had to be made in order to be in line with the new developments of the new paradigms. What we need to change now, it's the economic system which governs in this particularly technological age. It is mandatory necessary to create a wise utilization of the world resources for the benefit of the entire human race; NOT just a portion of it.

Before we detail these changes we must start by addressing the problems we are facing today and the root cause at why we have them in the first way. Only by understanding our problems and how they arise can we begin to develop a solution. We have inflation, increasing taxes, unemployment, political corruption, energy concerns, financial instability, crimes, environmentally issues and many more.

It is obviously why the world it is so stressfully and the humanity suffers as it does. Now more then ever it's the time for humanity to stand up and do something about it.

Politicians and the industry alike have repeatedly try to solve these issues but without any success. The best they ever done were to lay a mask or to divert the attention in other places. They do that because never they analyzed seriously the root causes which produce these problems and the fact that today we use an outdated economic system.

The monetary system or better yet, the price system it's at the base and it's the fundamental factor for all the issues we face today. By definition a price system it's any economics system that effects its distribution of goods and services with prices based on commodity evaluation and uses any form of money or debt tokens. Do not confuse this with capitalism, free market or any other terms or definitions in economic acceptance.
It is also very important to understand that these are not political arguments and has absolutely nothing to do with political control.

Every nation from this planet, regardless of their political ideology: democracy, monarchy, socialism, communism or whatever operates using the same economic system. They all

employed this system in which they can exchange goods and services throughout the world. It is the one common link between all these systems which is also the fundamental cause for so many problems which we see in the world today. I'll try to explain now way this is happened.

The monetary system requires two key components in order to work: scarcity and growth. In the past, prior to 1800, these two requirements were perfectly valid throughout the world. This was a time when traveling even for a few hundred miles was dangerous even deadly and the shipping of goods was no less difficult. Scarcity it's very important in this system because it serves the purpose of establishing the value and the price. Having in mind supply and demand, the less of supply the more scarcity is therefore the price will be higher; the more the supply, the less value it has and the price will be lower. Prior to 1800 the scarcity was regarded as a natural phenomenon and since modern civilization was still yang it was plenty of room for growth so that both requirements were satisfied.

Today however, these two requirements no longer appear and the monetary system it's in serious troubles and in great distress. Just take a short look at the financial industry problems that has destroyed lifes in the past few years alone; they are impossible to ignore. The reality is that scarcity was eliminated by scientific discoveries and technological advance. In the absence of scarcity the growth no longer appears. We have reached a point in which we can produce more of everything then we can consume and the only true expansion left it's to the stars which is in itself restricted by the costs.

In a monetary system money or debt is the blood and life of the system and therefore it is necessary to continuously create new debt to validate the existing debt. So, all fiscal manipulations seek new ways to justify creation of additional debt. All these "new ways" ignores or neglects the real causes of the problems. Just look at how much in debt today societies are as comparing to only 50 years ago. It's important to know that it was around 1980 when the debt started to go out of control, which coincide with the fact that technology started to seriously expand, giving humanity the ability to make a better world for everyone… if the technology were to be used in that way.

To better understand our present social instability, we should review the physical principles which lead up to our current mess. We can establish in history three distinguished periods: up until 1800 the world was a low energy society using very few energy resources. Why? Because up until this time the primary energy converting machine for doing work was the human being itself. A healthy human can produce up to 0.1 horse power (HP). In comparison a washing machine motor can produce 0.5 HP.

Regardless of this low power number 98% of all work done during this time was the result of human labor due to the fact that humanity did not yet discover advanced technology capable to do the work for them. The rest of 2% comes from sources outside of human muscle mainly from animals and wind or water mills also called "non human energy". Because the human being it's limited the output of his work it's also limited, so that no matter how many peoples you have on a job or for how long they work they can never produce enough to cover the growth in population or to provide a high standard of living for everyone.

If ever a few peoples did enjoy a decent standard of living it was always at the expense of the many who barely survive. The fact is that throughout history 95% of all the people were peasants, serves, slaves or servants. This ratio, 98% of work done by human beings and the other 2% done by other means has never changed throughout the history. That means over 7000 years of recorded human history with absolutely zero changes in work dynamics. The

consequence was that every society from the planet lived into one social stage which means that it was no change in the rate of energy conversion at all.

There was no fundamental change in how people worked to produce goods and so scarcity prevailed everywhere. Starting with 1800 a very significant event took place when James Watt invented the first steam engine that changed radically the way work was done. It was the beginning of wide spread use of non-human energy and even since that time appear an accelerate manner to build bigger, better, faster and more efficient machines to convert energy into work. These efforts spread across the world with the United States as main leader.

From this moment on we can observe a change in the ratio of human to non-human energy so that the non-human energy slowly at first but in an accelerate way latter to 1900 begin to take over the human energy. In United States study has been made early since 1920 to see what social impact these changes was having. They collected dates from all base industries showing the rates of production, the rates of used energy conversion, the decline of man hours and the overall effects on employments. It was predicted that if the trends continued at this rate the ratio energy will inverse and the non-human energy will dominate the human energy.

Humanity evolved from a low energy society to a high energy society. This new condition it's the exact opposite to what humans were used to across all recorded history and this it's no small change.

According to US Department of Commerce and Statistics in 1992 USA have an installed power of 35.3 billion horse-powers. Prior to 1800 society had an energy conversion of 2000 kg-calories per person. Sounds familiar to you? What is the number of calories contained in almost every food item? A 2000 calories diet. It makes sense that if the mans are the primary workers the energy it's limited by their average calories intake. But 35.3 billion HP equals to 22 trillions kg-calories. So, in 1992 United States has an 89000 kg-calories per person in non-human energy. That means an increase of 4000% as compared to an average society prior to 1800.

This was the primary source of the American progress and development throughout the XIX century. United States was the first and the only country to date capable to produce more then it consumed. Fast forwarding to today and the global implications of this fact are considerable as it will be presented to you during this book.

What the monetary system does into this given conditions? The monetary system it's in a continuous decline over the past 90 years because the conditions of living has been changed on the entirely planet. The two major requirements for the monetary system to survive – scarcity and growth – no longer truly exist. The world has stabilized as far as growth is concern and scarcity has been eradicated thru technology. In today world the scarcity and growth it's artificially maintained thru money control.

We have every item we want, but we do not have the money to access it. This aberration will be largely explained latter.

Today we experience very serious economic problems and any solution has been only a patch but the bubble gum it's destined to burst. Till today no solution has ever addresses to the fundamental causes of the problem. This is happening because the real solution will require a major, major shift in the economic structure itself, and the people who benefit the most from this system (correctly called "the 1%") furiously refuse to change the game.

In a 1920's survey covering the whole industrial sector shown that from 1830 to 1900 production was low and the growth was slow but then we've moved into a rapid growth due to rapid technological and machinery developments and the greater use of non-human energy. From 1900 to 1930 a spectacular increase of production of goods occurs at about 7% per year. However this can only go so much and a leveling off occur. In the meantime the man-hour time per task follows a rapid decrease. A kilowatt-hour is equal to 26 man-hour but at a much lower price. The monetary system encourages the businesses to replace costly man-power with cheaper more productive technology in order to maximize… the Profit!

From the 1900 ahead we faced a unique situation that was never been present throughout the whole history of mankind: record productions with minimal human labor presence. This must be great news for everyone if the monetary system will not interfere because labor it's the most common product for buy and sale into a market place. This very fact will have a big impact onto the purchase power. From 1830 to 1900 the total man-hours was high and the economic growth was slow. But from a certain point it will decrease proportionally with the increased productivity; less man-hour per item at an exponentially growth of productivity.

This phenomenon occurs in the whole industry. It is a phenomenon which occurs only once in any given industry. The peak of man-hours appears in United States in 1920 and from this moment on the monetary system it's into a continuous instability to this day due to the discrepancy between the man-hours and productivity.

The ever winding gap between productivity and the number of man-hours indicates that the easier is for us to produce more, the harder becomes to distribute those items. The reason for this anomaly is because of a close relationship between total man-hours and the purchasing power. Most of the people receive incomes from a job in the form of wages or salaries and the decrease of the man-hour generally leads to a decrease in the purchasing power. It is indeed an irony that although our productivity has increased we suffer a decrease in consumption; but this is what happens in a monetary system.

The real problem today it's not balancing the budget, but balancing our newly discovered (or suppressed) sources of energy and the real management of the resources with global consumption. The rules of the monetary system prevent us from doing just that. Distribution it's carry on by a series of exchanges based on a scarcity that no longer truly exist and money it's used to do these exchanges.

Money is a form of debt and we try to balance production with consumption by creating even more debt – this will simply not work. The reason is that there is little relation between the creation of debt and anything in the real physical world. Nor debt, nor money is the real resources for survival. They oppose human creation and they are no longer valid in today's technological world. The man-hour work it's a physical phenomenon, or as the growth of debt it's an abstraction. The growth of debt says all. From 1860 to the end of the First World War debt was low and the growth was slow. After the armistice from 1918 debt start to rapidly increase; this was the period named "the roaring 20's" and the reason for this increase of debt was the developing technology which has exceeded our expectations. During the war we' be installed more and more technology to replace the workers that had left to war. Purchasing power dropped and we can produce more then we can consume. Therefore during this decade the institution of buying on credit came into existence. Even if you can not afford something you were encouraged to buy it anyway and pay for it with the next months or next years income. This means an increase in debt; but by 1929 something it happened. We've over

extended that credit and the “gambling” institution known as Wall-Street collapsed. This crash lead to an economic crisis which took four years to hit the bottom in 1933.

At this moment the government steps in because it had to. It tries to patch the failing monetary system by increasing even more the debt. Sounds familiar with what happening now? How did they end up in this mess? They begin to spend more money then they can collect thru taxes; also called deficit spending. During the Roosevelt administration they tried to support the economy by giving purchasing power to the unemployed persons thru a financial aid. Also they support the bankrupt businesses with financial subsides (just like today’s bailouts).

We can say that the monetary system was pawned since 1933 and the government spends more and more in order to maintain this financial system. We will take a much more in depth view onto this crisis in a dedicated chapter later (“The Ruling Elite”).

If we analyze these false capital infusions in order to stimulate the business environment we observe that debt start once again to increase. We reach a point in 1941 when another event occurs. The decaying monetary system receives another reprieve thru the Second World War, which provided the motivation to put all the unemployed people to work or into armed forces. One can say that the WW II was created to save the monetary system. It will not be very wrong. The banks re-opened, the factories re-opened creating a vast amount of products shipped overseas. With the exception of eliminating a “created problem” like Hitler heavily founded by a consortium of banks so that he can do the much needed war. However the war didn’t solve the root problems, it only buys a few decades of time as the debt has skyrocketing since.

In spite of the hardships generated by the economic crisis and the war the monetary system did not reached the end point. It was patched and re-patched in one way or another and for what? To save an outdated system, to maintained an artificial scarcity. Let’s go back to the depression when it was so many people without jobs with their families go hungry despite the tremendous quantities of food available throughout the country. Were them given to the people? No! Because it was un-profitable to just give away the food even to the starving population.

Through “The Agricultural Adjustment Act” from 1933 we’ve begin to destroy the crops, to kill the live-stocks, all just to maintain the monetary system. We are still doing this today but in a more “covertly” way. Starting with 1933 the government spends billions of dollars paying farmers NOT to grow their crops. Also they tried to divert production of wheat and corn to other directions like production of bio-fuels, which is a tremendous waste of food and not a real alternative for fuel to begin with.

In the monetary system when food becomes too plentiful, we've started to limit their production. All this in order to sustain prices and to keep the system going and if people happen to suffer and go hungry, well... this has little importance to us because this is the way a monetary system works.

Industry uses different tactics. They operate at a very low limit by using one or two working shifts or even shut down production at all, even if they have the capabilities to produce 24/7 for 365 days a year.

Another tactics which creates tremendous waste is to produce low quality products which brakes easily and they only work for a certain amount of time, insuring a high turnover. If a company could produce something which can last for 100 years and we do have all the materials and the technology to do just that, they wouldn't do it because they will not sell the next version to make more profit. Take a look at the vast variety of products like toys, foods, cars, appliances, etc. Destroying all these low quality products insure scarcity. They are hundreds of thousands of junky products thrown away each week in order to insure a large production cycle and obtaining of huge profits. This is the way the system works!

This also leads to waste, loads and loads of waste. Take a look at a banal product like mobile phone. There are too many worthless, cheapest cell phones on the market. Hundreds of millions are made every year in various models with different designs to make them unique giving a false sense of fashion. Why not to make one phone to last more then 25 years and who can be easily upgradeable? Because the monetary system prohibits this type of logic. In 2005 in United States 130 millions cell phones went out of use annually (according to US Environment Agency). And that's only cell phones.

But the most destructive and atrocious from all human activities is the proliferation of wars, and we did have some big wars in the XIX century. Recently we are involved in a war without flags, without uniform, also called "terror war". This type of war can be "justified" up to the end of times. War did not solve any of the underlined problems. It was created to maintain the monetary system and the dollar supremacy as the world currency for just a little way longer. This is the real "success" of the war.

World War I, World War II, Korea, Vietnam, the Gulf wars or the most recent "war on terror" engineered during and after the staged 9/11 events; costs the lives of thousands and hundreds of thousands of innocent peoples all over the world and the destructions of million of tones of irreplaceable resources. How this attitude can solve any of our current social problems? The so called Truman doctrine was created over 65 years ago in the name of "national security" has cost the United States trillions of dollars. United States spends billion of dollars overseas into something they call "foreign aid". From the '60's USA has financed both sides of more then 14 wars and still the world it's in great turmoil then ever. Insanity it's defined as the act of doing the same thing over and over again hopping in a different result. Like wise spending the money, creating debt, creating wars has not solved any of our social problems locally or globally and it will never do.

The monetary system, born from agrarian revolution using hand tools, human perspiration and all of its scarcity values it is incapable to deal with the new paradigm which is born under our own eyes, a high energy, technological advanced society.

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Let's make something perfectly clear: the monetary system it's NOT bad, it is simply outdated, it reached its life span and needs to be replaced with something that can face the new paradigm. It used to be good. It worked. It was the best option for thousands of years and

specifically for the past 200 years when it helped the development of human capacities and influenced the development of advanced technology. But times has changed most significantly through technology more then somebody could imagine 200 years ago. This technology can make as look like gods or magicians into the eyes of the old world. And so the methods by which our world works must also change. It is in the best interest of the entirely human race, not separated by color, gender, faith or cultural environment in order to move to a better system.

In order to find an answer to how we can do that; we must first find a new approach, seek new ideas and new thinking techniques. The solution reside into a social system based on science and on a scientific method which will eradicate the monetary system in favor of a system that allows a vastly superior management of the human and world resources. Having science and technology (real technology) at the forefront we can design a far better world then the one we have today, unleashing the full potential of human beings. The world needs all kinds of thinking because humanity it's used today at barely 5 to 10% of its natural capabilities. The rest of the 90 to 95% of its potential has been repressed by today's social, political, financial and economical system.

We must eliminate the gap between the ones who have and the ones who have not. We must insure that ALL the new babies born anywhere in the world have the freedom to choose their paths in life. We must reconnect humanity to the nature, eliminating all the harms made to nature using technology to live like kings but behave like proper stewards in the interests of this fertile planet that we all call HOME.

The solution must insure a very high standard of living for every man, women and child of this planet, giving anyone a freedom of expression, thought and the most important of all… LIFE!

Let's analyze now some facts about our society and ourselves. These are important ones, because it will help us understand better the solutions that we must create:

How economic inequality harms societies.

I think the intuition that inequality is divisive and socially corrosive has been around since before the French Revolution. What's changed is we now can look at the evidence; we can compare societies, more and less equal societies, and see what inequality does.

Let's start with a paradox; let's analyze life expectancy against gross national income -- how rich countries are on average. The countries like Norway and the United States, are twice as rich as Israel, Greece or Portugal. And it makes no difference to their life expectancy at all. There's no suggestion of a relationship there. But if we look within our societies, there are extraordinary social gradients in health running right across society.

So income means something very important within our societies and nothing between them. The explanation of that paradox is that, within our societies, we're looking at relative income or social position, social status -- where we are in relation to each other and the size of the gaps between us. And as soon as you've got that idea, you should immediately wonder: what happens if we widen the differences, or compress them, make the income differences bigger or smaller?

I'm not using any hypothetical data. I'm taking data from the U.N. -- it's the same as the World Bank has on the scale of income differences in these rich developed market democracies. The measure we've used, because it's easy to understand, is how much richer the top 20 percent than the bottom 20 percent in each country. In the more equal countries - Japan, Finland, Norway, Sweden the top 20 percent are about three and a half, four times as rich as the bottom 20 percent. But on the more unequal end - U.K., Portugal, USA, and Singapore - the differences are twice as big. On that measure, we are twice as unequal as some of the other successful market democracies.

Let's see what that does to our societies. Analyzing dates on problems with social gradients, the kind of problems that are more common at the bottom of the social ladder. Internationally comparable data on life expectancy, on kids' maths and literacy scores, on infant mortality rates, homicide rates, proportion of the population in prison, teenage birthrates, levels of trust, obesity, mental illness -- which in standard diagnostic classification includes drug and alcohol addiction -- and social mobility. The more unequal countries are, they are doing worse on all these kinds of social problems. It's an extraordinarily close correlation. But if you look at that same index of health and social problems in relation to GNP per capita, gross national income, there's nothing there, no correlation anymore.

Kids do worse in the more unequal societies. Highly significant relationship. But once again, if you look at that measure of child well-being, in relation to national income per person, there's no relationship, no suggestion of a relationship.

We are not talking about perfect equality; we're talking about what exists in rich developed market democracies. Another really surprising part is that it's not just the poor who are affected by inequality and in a number of studies; it's possible to compare how people do in more and less equal countries at each level in the social hierarchy.

The average well-being of our societies is not dependent any longer on national income and economic growth. That's very important in poorer countries, but not in the rich developed world. But the differences between us and where we are in relation to each other now matter very much. Let's analyze the trust that people have. It's simply the proportion of the population who agree most people can be trusted. It comes from the World Values Survey about 15 percent of the population who feel they can trust others. But in the more equal societies, it rises to 60 or 65 percent. And if you look at measures of involvement in community life or social capital, very similar relationships closely related to inequality.

The same is for the rate of mental illnesses, the rate of violence and the proportion of the population in prison; the rate of children dropping out of high school; the rate of social mobility – all this data shown that the more inequality the society is, the more problems that society has. But there are endless problems with social gradients that are worse in more unequal countries -- not just a little bit worse, but anything from twice as common to 10 times as common. Think of the expense, the human cost of that.

Another really important difference is how the countries get their greater equality. Sweden has huge differences in earnings, and it narrows the gap through taxation, general welfare state, and generous benefits and so on. Japan is rather different though. It starts off with much smaller differences in earnings before tax. It has lower taxes. It has a smaller welfare state. Between the American states its rather the same contrast. There are some states that do well through redistribution, some states that do well because they have smaller income differences

before tax. So, it doesn't much matter how you get your greater equality, as long as you get there somehow.

The psychosocial effects of inequality have more to do with feelings of superiority and inferiority, of being valued and devalued, respected and disrespected. And of course, that feeling of the status competition that comes out of that drives the consumerism in our society. It also leads to status insecurity. We worry more about how we're judged and seen by others, whether we're regarded as attractive, clever, all that kind of thing. The social-evaluative judgments increase, the fear of those social-evaluative judgments.

Interestingly, some parallel work going on in social psychology: some people reviewed 208 different studies in which volunteers had been invited into a psychological laboratory and had their stress hormones, their responses to doing stressful tasks, measured. And in the review, what they were interested in seeing is what kind of stresses most reliably raise levels of cortisol, the central stress hormone. And the conclusion was it was tasks that included social-evaluative threat -- threats to self-esteem or social status in which others can negatively judge your performance. Those kind of stresses have a very particular effect on the physiology of stress.

What about causality? Correlation in itself doesn't prove causality. We spend a good bit of time. And indeed, people know the causal links quite well in some of these outcomes. The big change in our understanding of drivers of chronic health in the rich developed world is how important chronic stress from social sources is affecting the immune system, the cardiovascular system. Or for instance, the reason why violence becomes more common in more unequal societies is because people are sensitive to being looked down on.

I should say that to deal with this, we've got to deal with the post-tax things and the pre-tax things. We've got to constrain income, the bonus culture incomes at the top. I think we must make our bosses accountable to their employees in any way we can. We can improve the real quality of human life by reducing the differences in incomes between us. Suddenly we have a handle on the psychosocial well-being of whole societies, because the more unequal the world as a hole becomes the more problems the future will bring.

Why do societies fail?

All of us have been interested, at one time or another, in the romantic mysteries of all those societies that collapsed, such as the classic Maya in the Yucatan, the Easter Islanders, the Anasazi, Fertile Crescent society, Angor Wat, Great Zimbabwe and so on. And within the last decade or two, archaeologists have shown us that there were environmental problems underlying many of these past collapses. But there were also plenty of places in the world where societies have been developing for thousands of years without any sign of a major collapse, such as Japan, Java, Tonga and Tikopea. So evidently, societies in some areas are more fragile than in other areas. How can we understand what makes some societies more fragile than other societies? The problem is obviously relevant to our situation today, because today as well, there are some societies that have already collapsed, such as Somalia and Rwanda and the former Yugoslavia. There are also societies today that may be close to collapse, such as Nepal, Indonesia and Columbia.

What about ourselves? What is there that we can learn from the past that would help us avoid declining or collapsing in the way that so many past societies have? Obviously the answer to this question is not going to be a single factor. This is a complex subject. But how can we

make sense out of the complexities of this subject? In analyzing societal collapses, I've arrived at a five-point framework -- a checklist of things that I go through to try and understand collapses. And I'll illustrate that five-point framework by the extinction of the Greenland Norse society. This is a European society with literate records, so we know a good deal about the people and their motivation. In AD 984 Vikings went out to Greenland, settled Greenland, and around 1450 they died out -- the society collapsed, and every one of them ended up dead.

Why did they all end up dead? The first reason on the framework is to look for human impacts on the environment: people inadvertently destroying the resource base on which they depend. And in the case of the Viking Norse, the Vikings inadvertently caused soil erosion and deforestation, which was a particular problem for them because they required forests to make charcoal, to make iron. So they ended up an Iron Age European society, virtually unable to make their own iron.

The second reason is climate change. Climate can get warmer or colder or dryer or wetter. In the case of the Vikings in Greenland, the climate got colder in the late 1300s, and especially in the 1400s. But a cold climate isn't necessarily fatal, because the Inuit the Eskimos inhabiting Greenland at the same time did better, rather than worse, with cold climates. So why didn't the Greenland Norse as well?

The third reason is relations with neighboring friendly societies that may prop up a society. And if that friendly support is pulled away, that may make a society more likely to collapse. In the case of the Greenland Norse, they had trade with the mother country -- Norway -- and that trade dwindled: partly because Norway got weaker, partly because of sea ice between Greenland and Norway.

The fourth reason is relations with hostile societies. In the case of Norse Greenland, the hostiles were the Inuit the Eskimos sharing Greenland with whom the Norse got off to bad relationships. And we know that the Inuit killed the Norse and, probably of greater importance, may have blocked access to the outer fjords, on which the Norse depended for seals at a critical time of the year.

And then finally, the fifth reason is the political, economic, social and cultural factors in the society that make it more or less likely that the society will perceive and solve its environmental problems. In the case of the Greenland Norse, cultural factors that made it difficult for them to solve their problems were: their commitments to a Christian society investing heavily in cathedrals; their being a competitive-ranked chiefly society; and their scorn for the Inuit, from whom they refused to learn. So that's how the five-part framework is relevant to the collapse and eventual extinction of the Greenland Norse.

What about today's societies?

Looking at these issues of collapses for a lot of past societies and for many present societies, are there any general conclusions that arise? In a way, just like Tolstoy's statement about every unhappy marriage being different, every collapsed or endangered society is different -- they all have different details. But nevertheless, there are certain common threads that emerge from these comparisons of past societies that did or did not collapse and threatened societies today. One interesting common thread has to do with, in many cases, the rapidity of collapse after a society reaches its peak. There are many societies that don't wind down gradually, but they build up -- get richer and more powerful -- and then within a short time, within a few

decades after their peak, they collapse. For example, the classic lowland Maya of the Yucatan began to collapse in the early 800s literally a few decades after the Maya were building their biggest monuments, and Maya population was greatest.

Or again, the collapse of the Soviet Union took place within a couple of decades, maybe within a decade, of the time when the Soviet Union was at its greatest power. An analogue would be the growth of bacteria in a petri dish. These rapid collapses are especially likely where there's a mismatch between available resources and resource consumption, or a mismatch between economic outlays and economic potential. In a petri dish, bacteria grow. Say they double every generation, and five generations before the end the petri dish is 15/16ths empty, and then the next generation's 3/4ths empty, and the next generation half empty. Within one generation after the petri dish still being half empty, it is full. There's no more food and the bacteria have collapsed. So, this is a frequent theme: societies collapse very soon after reaching their peak in power.

What it means to put it mathematically is that, if you're concerned about a society today, you should be looking not at the value of the mathematical function, the wealth itself, but you should be looking at the first derivative and the second derivatives of the function. That's one general theme. A second general theme is that there are many, often subtle environmental factors that make some societies more fragile than others. Many of those factors are not well understood. For example, why is it that in the Pacific, of those hundreds of Pacific islands, why did Easter Island end up as the most devastating case of completes deforestation? It turns out that there were about nine different environmental factors -- some, rather subtle ones -- that were working against the Easter Islanders, and they involve fallout of volcanic tephra, latitude, rainfall. Perhaps the most subtle of them is that it turns out that a major input of nutrients which protects island environments in the Pacific is from the fallout of continental dust from central Asia. Easter, of all Pacific islands, has the least input of dust from Asia restoring the fertility of its soils. But that's a factor that we didn't even appreciate until 1999.

So, some societies, for subtle environmental reasons, are more fragile than others. And then finally, another generalization is, how on earth did these societies not see what they were doing? How could the Easter Islanders have deforested their environment? What did they say when they were cutting down the last palm tree? Didn't they see what they were doing? How could societies not perceive their impacts on the environments and stop in time? And I would expect that, if our human civilization carries on, then maybe in the next century people will be asking, why on earth did these people today in the beginning of a new millennium not see the obvious things that they were doing and take corrective action?

It seems incredible in the past but in the future, it'll seem incredible what we are doing today. And so I've been trying to develop a hierarchical set of considerations about why societies fail to solve their problems -- why they fail to perceive the problems or, if they perceive them, why they fail to tackle them. Or, if they tackle them, why do they fail to succeed in solving them?

I'll just mention two generalizations in this area. One blueprint for trouble, making collapse likely, is where there is a conflict of interest between the short-term interest of the decision-making elites and the long-term interest of the society as a whole, especially if the elites are able to insulate themselves from the consequences of their actions. Where what's good in the short run for the elite is bad for the society as a whole, there's a real risk of the elite doing things that would bring the society down in the long run. For example, among the Greenland Norse a competitive rank society what the chiefs really wanted is more followers and more

sheep and more resources to out-compete the neighboring chiefs. And that led the chiefs to do what's called flogging the land: overstocking the land, forcing tenant farmers into dependency. And that made the chiefs powerful in the short run, but led to the society's collapse in the long run.

Those same issues of conflicts of interest are acute in the United States today. Especially because the decision makers in the United States are frequently able to insulate themselves from consequences by living in gated compounds, by drinking bottled water and so on. And within the last couple of years, it's been obvious that the elite in the business world correctly perceive that they can advance their short-term interest by doing things that are good for them but bad for society as a whole, such as draining a few billion dollars out of Enron and other businesses. They are quite correct that these things are good for them in the short term, although bad for society in the long term. So, that's one general conclusion about why societies make bad decisions: conflicts of interest.

And the other generalization is that it's particularly hard for a society to make quote-unquote good decisions when there is a conflict involving strongly held values that are good in many circumstances but are poor in other circumstances. For example, the Greenland Norse, in this difficult environment, was held together for four-and-a-half centuries by their shared commitment to religion, and by their strong social cohesion. But those two things commitment to religion and strong social cohesion also made it difficult for them to change at the end and to learn from the Inuit.

How about today Australia? One of the things that enabled Australia to survive in this remote outpost of European civilization for 250 years has been their British identity. But today, their commitment to a British identity is serving Australians poorly in their need to adapt to their situation in Asia.

So, it's particularly difficult to change course when the things that get you in trouble are the things that are also the source of your strength.

What's going to be the outcome today? Well, all of us know the dozen sorts of ticking time bombs going on in the modern world, time bombs that have fuses of a few decades to all of them, not more than 50 years, and any one of which can do us in; the time bombs, of water, of soil, of climate change, invasive species, the photosynthetic ceiling, population problems, toxics, etc. And while these time bombs none of them has a fuse beyond 50 years, and most of them have fuses of a few decades some of them, in some places, have much shorter fuses. At the rate at which we're going now, the Philippines will lose all its accessible luggable forest within five years. And the Solomon Islands are only one year away from losing their luggable forest, which is their major export. And that's going to be spectacular for the economy of the Solomon’s.

The fact is that our present course is a non-sustainable course, which means, by definition, that it cannot be maintained. And the outcome is going to get resolved within a few decades. That means that those of us in this room who are less than 50 or 60 years old will see how these paradoxes are resolved, and those of us who are over the age of 60 may not see the resolution, but our children and grandchildren certainly will. The resolution is going to achieve either of two forms: either we will resolve these non-sustainable time-fuses in pleasant ways of our own choice by taking remedial action, or else these conflicts are going to get settled in unpleasant ways not of our choice -- namely, by war, disease or starvation. But

what's for sure is that our non-sustainable course will get resolved in one way or another in a few decades.

In other words, since the main theme here is choices, we have a choice. Does that mean that we should get pessimistic and overwhelmed? The big problems facing the world today are not at all things beyond our control. Our biggest threat is not an asteroid about to crash into us, something we can do nothing about. Instead, all the major threats facing us today are problems entirely of our own making. And since we made the problems, we can also solve the problems. That then means that it's entirely in our power to deal with these problems. In particular, what can all of us do? For those of you who are interested in these choices, there are lots of things you can do. There's a lot that we don't understand, and that we need to understand. And there's a lot that we already do understand, but aren't doing, and that we need to be doing.

A World of Cities

Basically, there's a major demographic event going on. And it may be that passing the 50 percent urban point is an economic tipping point. So the world now is a map of connectivity.

It used to be that Paris and London and New York were the largest cities. What we have now is the end of the rise of the West. That's over. The aggregate numbers are overwhelming. So what's really going on? Well, villages of the world are emptying out.

The question is, why? And here's the unromantic truth and the city air makes you free, they said in Renaissance Germany. So some people go to places like Shanghai but most go to the squatter cities where aesthetics rule. And these are not really a people oppressed by poverty. They're people getting out of poverty as fast as they can. They're the dominant builders and to a large extent, the dominant designers. They have home-brewed infrastructure and vibrant urban life.

One-sixth of the GDP in India is coming out of Mumbai. They are constantly upgrading, and in a few cases, the government helps. Education is the main event that can happen in cities. What's going on in the street in Mumbai? Al Gore knows. It's basically everything. There's no unemployment in squatter cities. Everyone works. One-sixth of humanity is there. It's soon going to be more than that.

So here's the first punch line: cities have defused the population bomb. And here's the second punch line. That's the news from downtown. Here it is in perspective. Stars have shined down on earth's life for billions of years. Now we're shining right back up.

The future, as we know it, is very unpredictable. The best minds in the best institutions generally get it wrong. This is in technology. This is in the area of politics, where pundits, the CIA, MI6 always get it wrong. And it's clearly in the area of finance. With institutions established to think about the future, the IMF, the BIS, the Financial Stability Forum, couldn't see what was coming. Over 20,000 economists whose job it is, competitive entry to get there, couldn't see what was happening.

Globalization is getting more complex. And this change is getting more rapid. The future will be more unpredictable. Urbanization, integration, coming together, leads to a new renaissance. It did this a thousand years ago. The last 40 years have been extraordinary times. Life expectancy has gone up by about 25 years. It took from the Stone Age to achieve that.

Income has gone up for a majority of the world's population, despite the population going up by about two billion people over this period. And illiteracy has gone down, from a half to about a quarter of the people on Earth. A huge opportunity, unleashing of new potential for innovation, for development.

But there is an underbelly. There are two Achilles' heels of globalization. There is the Achilles' heel of growing inequality -- those that are left out, those that feel angry, those that are not participating. Globalization has not been inclusive. The second Achilles' heel is complexity a growing fragility, a growing brittleness. What happens in one place very quickly affects everything else. This is a systemic risk, systemic shock. We've seen it in the financial crisis. We've seen it in the pandemic flu. It will become virulent and it's something we have to build resilience against.

A lot of this is driven by what's happening in technology. There have been huge leaps. There will be a million-fold improvement in what you can get for the same price in computing by 2030. That's what the experience of the last 20 years has been. It will continue. Our computers, our systems will be as primitive as the Apollo's are for today. Our mobile phones are more powerful than the total Apollo space engine. Our mobile phones are more powerful than some of the strongest computers of 20 years ago. So what will this do? It will create huge opportunities in technology. Miniaturization as well. There will be invisible capacity. Invisible capacity in our bodies, in our brains, and in the air. This is a dust mite on a nanoreplica.

This sort of ability to do everything in new ways unleashes potential, not least in the area of medicine. We can develop any part of the body. Increasingly, over time, this will be possible from our own skin -- able to replicate parts of the body. Fantastic potential for the regenerative medicine. But the question is, "Who will have it?"

The other major development is going to be in the area of what can happen in genetics. The capacity to create, something which goes three times faster, lasts for three times longer. But will this only be available for the super rich, for those that can afford it? Are we headed for a new eugenics? Will only those that are able to afford it be able to be this super race of the future?

So the big question for us is, "How do we manage this technological change?" How do we ensure that it creates a more inclusive technology, a technology which means that not only as we grow older, that we can also grow wiser, and that we're able to support the populations of the future? One of the most dramatic manifestations of these improvements will be moving from population pyramids to what we might term population coffins. There is unlikely to be a pension or a retirement age in 2030. These will be redundant concepts. And this isn't only something of the West.

The most dramatic changes will be the skyscraper type of new pyramids that will take place in China and in many other countries. So forget about retirements if you're young. Forget about pensions. Think about life and where it's going to be going. Of course, migration will become even more important. The war on talent, the need to attract people at all skill ranges, to push us around in our wheelchairs, but also to drive our economies. Our innovation will be vital.

The employment in the rich countries will go down from about 800 to about 700 million of these people. This would imply a massive leap in migration. So the concerns, the xenophobic concerns of today, of migration, will be turned on their head, as we search for people to help

us sort out our pensions and our economies in the future. And then, the systemic risks. We understand that these will become much more virulent, that what we see today is this interweaving of societies, of systems, fastened by technologies and hastened by just-in-time management systems. Small levels of stock push resilience into other people's responsibility.

The collapse in biodiversity, climate change, pandemics and financial crises: these will be the currency that we will think about. And so a new awareness will have to arise, of how we deal with these, how we mobilize ourselves, in a new way, and come together as a community to manage systemic risk. It's going to require innovation. It's going to require an understanding that the glory of globalization could also be its downfall. This could be our best century ever because of the achievements, or it could be our worst. And of course we need to worry about the individuals, particularly the individuals that feel that they've been left out in one way or another.

An individual, for the first time in the history of humanity, will have the capacity, by 2030, to destroy the planet, to wreck everything, through the creation, for example, of a biopathogen. How do we begin to weave these tapestries together? How do we think about complex systems in new ways? That will be the challenge of the scholars, and of all of us engaged in thinking about the future. The rest of our lives will be in the future. We need to prepare for it now. We need to understand that the governance structure in the world is fossilized. It cannot begin to cope with the challenges that this will bring. We have to develop a new way of managing the planet, collectively, through collective wisdom.

We know, and I know from my own experience, that amazing things can happen, when individuals and societies come together to change their future. We can create miracles, collectively, in our lifetime. It is vital that we do so.

The Power Shift.

Once the 19th century was coming to a close, we were preparing to move into one of those terrifying periods of history when power changes. And these are always periods, accompanied by turbulence, and all too often by blood.

And my message for you is that I believe we are condemned, if you like, to live at just one of those moments in history when the gimbals upon which the established order of power is beginning to change and the new look of the world, the new powers that exist in the world, are beginning to take form. And these are - and we see it very clearly today - nearly always highly turbulent times, highly difficult times, and all too often very bloody times. By the way, it happens about once every century.

You might argue that the last time it happened was that when power passed from the old nations, the old powers of Europe, across the Atlantic to the new emerging power of the United States of America - the beginning of the American century. And of course, into the vacuum where the too-old European powers used to be were played the two bloody catastrophes of the last century - the one in the first part and the one in the second part: the two great World Wars. Mao Zedong used to refer to them as the European civil wars, and it's probably a more accurate way of describing them.

Nowadays, we live at one of those times. We are today under influences of three factors. And the first of these, the first two of these, is about a shift in power. And the third is about some new dimension, which has never quite happened in the way it's happening now. But let's talk

about the shifts of power that are occurring to the world. And what is happening today is, in one sense, frightening because it's never happened before. We have seen lateral shifts of power the power of Greece passed to Rome and the power shifts that occurred during the European civilizations but we are seeing something slightly different. For power is not just moving laterally from nation to nation. It's also moving vertically.

What's happening today is that the power that was encased, held to accountability, held to the rule of law, within the institution of the nation state has now migrated in very large measure onto the global stage. The globalization of power we talk about the globalization of markets, but actually it's the globalization of real power. And where, at the nation state level that power is held to accountability subject to the rule of law, on the international stage it is not. The international stage and the global stage where power now resides: the power of the Internet, the power of the satellite broadcasters, the power of the money changers, this vast money-go-round that circulates now 32 times the amount of money necessary for the trade it's supposed to be there to finance the money changers, if you like, the financial speculators that have brought us all to our knees quite recently, the power of the multinational corporations now developing budgets often bigger than medium-sized countries. These live in a global space which is largely unregulated, not subject to the rule of law, and in which people may act free of constraint.

Now that suits the powerful up to a moment. It's always suitable for those who have the most power to operate in spaces without constraint, but the lesson of history is that, sooner or later, unregulated space - space not subject to the rule of law - becomes populated, not just by the things you wanted -- international trade, the Internet, etc. -- but also by the things you don't want - international criminality, international terrorism. The revelation of 9/11 is that even if you are the most powerful nation on earth, nevertheless, those who inhabit that space can attack you even in your most iconic of cities one bright September morning. It's said that something like 60 percent of the four million dollars that was taken to fund 9/11 actually passed through the institutions of the Twin Towers which 9/11 destroyed. You see, our enemies also use this space - the space of mass travel, the Internet, satellite broadcasters to be able to get around their poison, which is about destroying our systems and our ways.

Sooner or later, the rule of history is that where power goes governance must follow. And if it is therefore the case, as I believe it is, that one of the phenomenon of our time is the globalization of power, then it follows that one of the challenges of our time is to bring governance to the global space. And I believe that the decades ahead of us now will be to a greater or lesser extent turbulent the more or less we are able to achieve that aim: to bring governance to the global space.

Now notice, I'm not talking about government. I'm not talking about setting up some global democratic institution. It is unlikely to be done by spawning more U.N. institutions. If we didn't have the U.N., we'd have to invent it. The world needs an international forum. It needs a means by which you can legitimize international action. But when it comes to governance of the global space, my guess is this won't happen through the creation of more U.N. institutions. It will actually happen by the powerful coming together and making treaty-based systems, treaty-based agreements, to govern that global space.

And if you look, you can see them happening, already beginning to emerge. The World Trade Organization: treaty-based organization, entirely treaty-based, and yet, powerful enough to hold even the most powerful, the United States, to account if necessary. Kyoto: the beginnings of struggling to create a treaty-based organization. The G20: we know now that we have to

put together an institution which is capable of bringing governance to that financial space for financial speculation. And that's what the G20 is, a treaty-based institution.

Now there's a problem there, which is that if you bring the most powerful together to make the rules in treaty-based institutions, to fill that governance space, then what happens to the weak who are left out? And that's a big problem.

If you are to pass through these turbulent times more or less turbulently, then our success in doing that will in large measure depend on our capacity to bring sensible governance to the global space. And watch that beginning to happen. But power is not just shifting vertically, it's also shifting horizontally.

You might argue that the story, the history of civilizations, has been civilizations gathered around seas -- with the first ones around the Mediterranean, the more recent ones in the ascendents of Western power around the Atlantic. Well it seems to me that we're now seeing a fundamental shift of power, broadly speaking, away from nations gathered around the Atlantic to the nations gathered around the Pacific rim. Now that begins with economic power, but that's the way it always begins. You already begin to see the development of foreign policies, the augmentation of military budgets occurring in the other growing powers in the world. I think actually this is not so much a shift from the West to the East; something different is happening.

The United States will remain the most powerful nation on earth for the next 10 years, 15, but the context in which she holds her power has now radically altered; it has radically changed. We are coming out of 50 years, most unusual years, of history in which we have had a totally mono-polar world, in which every compass needle for or against have to be referenced by its position to Washington -- a world bestrode by a single colossus. But that's not a usual case in history. In fact, what's now emerging is the much more normal case of history. You're beginning to see the emergence of a multi-polar world.

Up until now, the United States has been the dominant feature of our world. They will remain the most powerful nation, but they will be the most powerful nation in an increasingly multi-polar world. And you begin to see the alternative centers of power building up in China, of course, though my own guess is that China's ascent to greatness is not smooth. It's going to be quite grumpy as China begins to democratize her society after liberalizing her economy. But that's a subject of a different discussion. You see India, you see Brazil. You see increasingly that the world now looks actually, for Europeans at least, much more like Europe in the 19th century.

Europe in the 19th century: a great British foreign secretary, Lord Canning, used to describe it as the "European concert of powers." There was a balance, a five-sided balance. Britain always played to the balance. If Paris got together with Berlin, Britain got together with Vienna and Rome to provide a counterbalance. Now notice, in a period which is dominated by a mono-polar world, you have fixed alliances: NATO, the Warsaw Pact. A fixed polarity of power means fixed alliances. But a multiple polarity of power means shifting and changing alliances. And that's the world we're coming into, in which we will increasingly see that our alliances are not fixed. Canning, the great British foreign secretary once said, "Britain has a common interest, but no common allies." And we will see increasingly that even we in the West will reach out, have to reach out, beyond the cozy circle of the Atlantic powers to make alliances with others if we want to get things done in the world.

Note that when USA went into Libya, it was not good enough for the West to do it alone; we had to bring others in. We had to bring, in this case, the Arab League in. My guess is Iraq and Afghanistan are the last times when the West has tried to do it themselves, and we haven't succeeded. We're reaching the beginning of the end of 400 years, I say 400 years because it's the end of the Ottoman Empire, of the hegemony of Western power, Western institutions and Western values. You know, up until now, if the West got its act together, it could propose and dispose in every corner of the world. But that's no longer true. Take the last financial crisis after the Second World War. The West got together -- the Bretton Woods Institution, World Bank, International Monetary Fund -- the problem solved. Now we have to call in others. Now we have to create the G20. Now we have to reach beyond the cozy circle of our Western friends.

We are now reaching the end of 400 years when Western power was enough. We may suppose that the Chinese, will never get themselves involved in peace-making, multilateral peace-making around the world. But no. How many Chinese troops are serving under the blue beret, serving under the blue flag, serving under the U.N. command in the world today? 3,700. How many Americans? 11. What is the largest naval contingent tackling the issue of Somali pirates? The Chinese naval contingent. Of course they are, they are a mercantilist nation. They want to keep the sea lanes open. Increasingly, we are going to have to do business with people with whom we do not share values, but with whom, for the moment, we share common interests. It's a whole new different way of looking at the world that is now emerging.

Today in our modern world, because of the Internet, because of the kinds of things people have been talking about here, everything is connected to everything. We are now interdependent. We are now interlocked, as nations, as individuals, in a way which has never been the case before, never been the case before. The interrelationship of nations, well it's always existed. Diplomacy is about managing the interrelationship of nations. But now we are intimately locked together. You get swine flu in Mexico; it's a problem for Charles de Gaulle Airport 24 hours later. Lehman Brothers goes down, the whole lot collapses. There are fires in the steppes of Russia, food riots in Africa.

We are all now deeply, deeply interconnected. And what that means is the idea of a nation state acting alone, not connected with others, not working with others, is no longer a viable proposition. Because the actions of a nation state are neither confined to itself, nor is it sufficient for the nation state itself to control its own territory, because the effects outside the nation state are now beginning to affect what happens inside them.

In the old times the enemy was outside the walls. Now the enemy is inside the walls. Now if I want to talk about the defense of my country, I have to speak to the Minister of Health because pandemic disease is a threat to my security, I have to speak to the Minister of Agriculture because food security is a threat to my security, I have to speak to the Minister of Industry because the fragility of our hi-tech infrastructure is now a point of attack for our enemies - as we see from cyber warfare - I have to speak to the Minister of Home Affairs because who has entered my country, who lives in that terraced house in that inner city has a direct effect on what happened in London with the 7/7 bombings. It's no longer the case that the security of a country is simply a matter for its soldiers and its ministry of defense. It's its capacity to lock together its institutions.

And this tells you something very important. It tells you that, in fact, our governments, vertically constructed, constructed on the economic model of the Industrial Revolution - vertical hierarchy, specialization of tasks, command structures - have got the wrong structures

completely. You in business know that the paradigm structure of our time is the network. It's your capacity to network that matters, both within your governments and externally.

In the modern age, where everything is connected to everything, the most important thing about what you can do is what you can do with others. The most important bit about your structure - whether you're a government, whether you're an army regiment, whether you're a business - is your docking points, your interconnectors, your capacity to network with others. You understand that in industry; governments don't.

We are now locked together in a way that has never been quite the same before, then it's also the case that we share a destiny with each other. Suddenly and for the very first time, collective defense, the thing that has dominated us as the concept of securing our nations, is no longer enough. It used to be the case that if my tribe was more powerful than their tribe, I was safe; if my country was more powerful than their country, I was safe; my alliance, like NATO, was more powerful than their alliance, I was safe. It is no longer the case. The advent of the interconnectedness and of the weapons of mass destruction means that, increasingly, I share a destiny with my enemy.

Collective security is not enough. Peace has come to Northern Ireland because both sides realized that the zero-sum game couldn't work. They shared a destiny with their enemies. One of the great barriers to peace in the Middle East is that both sides, both Israel and, I think, the Palestinians, do not understand that they share a collective destiny. And so suddenly, what has been the proposition of visionaries and poets down the ages becomes something we have to take seriously as a matter of public policy.

Remember that "No Man is an Island". "Every man's death affected me, for I am involved in mankind, send not to ask for whom the bell tolls, it tolls for thee." For John Donne, a recommendation of morality, for us… part of the equation for our survival.

The road to prosperity.

Let's talk about billions. Let's talk about past and future billions. We know that about 106 billion people have ever lived. And we know that most of them are dead. And we also know that most of them live or lived in Asia. And we also know that most of them were or are very poor, did not live for very long. Let's talk about billions. Let's talk about the 195,000 billion dollars of wealth in the world today. We know that most of that wealth was made after the year 1800. And we know that most of it is currently owned by people we might call Westerners: Europeans, North Americans and Austral-Asians. 19 percent of the world's population today, Westerners own two-thirds of its wealth.

Economic historians call this "The Great Divergence." In 1500, the average Chinese was richer than the average North American. When you get to the 1970s, the average Briton is more than 10 times richer than the average Indian. And that's allowing for differences in the cost of living. It's based on purchasing power parity. The average American is nearly 20 times richer than the average Chinese by the 1970s.

This wasn't just an economic story. If you take the 10 countries that went on to become the Western empires, in 1500 they were really quite tiny, five percent of the world's land surface, 16 percent of its population, maybe 20 percent of its income. By 1913, these 10 countries, plus the United States, controlled vast global empires, 58 percent of the world's territory, about the same percentage of its population, and a really huge, nearly three-quarters share of

global economic output. And notice, most of that went to the motherland, to the imperial metropoles, not to their colonial possessions.

Now you can't just blame this on imperialism though many people have tried to do so for two reasons. One, empire was the least original thing that the West did after 1500. Everybody did empire. They beat preexisting Oriental empires like the Mughals and the Ottomans. So it really doesn't look like empire is a great explanation for the Great Divergence. In any case, as you may remember, the Great Divergence reaches its zenith in the 1970s, some considerable time after decolonization. This is not a new question.

Samuel Johnson, the great lexicographer, through his character Rasselas in his novel "Rasselas, Prince of Abissinia," published in 1759 asked "By what means are the Europeans thus powerful; or why, since they can so easily visit Asia and Africa for trade or conquest, cannot the Asiatics and Africans invade their coasts, plant colonies in their ports, and give laws to their natural princes? The same wind that carries them back would bring us thither?"

That's a great question. And you know what, it was also being asked at roughly the same time by the Resterners, by the people in the rest of the world like Ibrahim Muteferrika, an Ottoman official, the man who introduced printing, very belatedly, to the Ottoman Empire -- who said in a book published in 1731, "Why do Christian nations which were so weak in the past compared with Muslim nations begin to dominate so many lands in modern times and even defeat the once victorious Ottoman armies?" Unlike Rasselas, Muteferrika had an answer to that question, which was correct. He said it was "because they have laws and rules invented by reason." It's not geography.

You may think we can explain the Great Divergence in terms of geography. We know that's wrong, because we conducted two great natural experiments in the 20th century to see if geography mattered more than institutions. We took all the Germans, we divided them roughly in two, and we gave the ones in the East communism. Within an incredibly short period of time, people living in the German Democratic Republic produced Trabants (aka the Trabbi), one of the world's worst ever cars, while people in the West produced the Mercedes Benz. If you still don't believe me, we conducted the experiment also in the Korean Peninsula. And we decided we'd take Koreans in roughly the same geographical place with, notice, the same basic traditional culture, and we divided them in two, and we gave the Northerners communism.

And the result is an even bigger divergence in a very short space of time than happened in Germany. Not a big divergence in terms of uniform design for border guards admittedly, but in almost every other respect, it's a huge divergence. So, neither geography nor national characters, popular explanations for this kind of thing, are really significant. It's the ideas. It's the institutions.

As very well stated Adam Smith in his well-known book „Wealth of Nations" published in 1776: "China seems to have been long stationary, and probably long ago acquired that full complement of riches which is consistent with the nature of its laws and institutions. But this complement may be much inferior to what, with other laws and institutions, the nature of its soil, climate, and situation might admit of." That is so right.

Basically there were six ways that set the West apart from the rest. That’s it; six very simple ways. We can define them as institutions. There are six reasons which explain the Great

Divergence: One - Competition. Two - The Scientific Revolution. Three - Property Rights. Four - Modern Medicine. Five - The Consumer Society. Six - The Work Ethic.

Competition means, not only were there a hundred different political units in Europe in 1500, but within each of these units, there was competition between corporations as well as sovereigns. The ancestor of the modern corporation, the City of London Corporation, existed in the 12th century. Nothing like this existed in China, where there was one monolithic state covering a fifth of humanity, and anyone with any ambition had to pass one standardized examination, which took three days and was very difficult and involved memorizing vast numbers of characters and very complex Confucian essay writing.

The Scientific Revolution was different from the science that had been achieved in the Oriental world in a number of crucial ways, the most important being that, through the experimental method, it gave men control over nature in a way that had not been possible before. Example: Benjamin Robins's extraordinary application of Newtonian physics to ballistics. Once you do that, your artillery becomes accurate. Think of what that means. Meanwhile, there's no scientific revolution anywhere else. The Ottoman Empire's not that far from Europe, but there's no scientific revolution there. In fact, they demolish Taqi al-Din's observatory, because it's considered blasphemous to inquire into the mind of God.

Property Rights: It's not the democracy, folks; it's having the rule of law based on private property rights. That's what makes the difference between North America and South America. You could turn up in North America having signed a deed of indenture saying, "I'll work for nothing for five years. You just have to feed me." But at the end of it, you've got a hundred acres of land. That's not possible in Latin America where land is held onto by a tiny elite descended from the conquistadors. And you can see here the huge divergence that happens in property ownership between North and South. Most people in rural North America owned some land by 1900. Hardly anyone in South America did.

Modern Medicine - in the late 19th century began to make major breakthroughs against the infectious diseases that killed a lot of people. It doubled, and then more than doubled, human life expectancy. It even did that in the European empires. Even in places like Senegal, beginning in the early 20th century, there were major breakthroughs in public health, and life expectancy began to rise. It doesn't raise any faster after these countries become independent. The empires weren't all bad.

The Consumer Society is what you need for the Industrial Revolution to have a point. You need people to want to wear tons of clothes. That's the consumer society, and it propels economic growth more than even technological change itself. Japan was the first non-Western society to embrace it. The alternative, which was proposed by Mahatma Gandhi, was to institutionalize and make poverty permanent. Very few Indians today wish that India had gone down Mahatma Gandhi's road.

The Work Ethic. Max Weber thought that was peculiarly Protestant. He was wrong. Any culture can get the work ethic if the institutions are there to create the incentive to work. We know this because today the work ethic is no longer a Protestant, Western phenomenon. In fact, the West has lost its work ethic. Today, the average Korean works a thousand hours more a year than the average German, a thousand. And this is part of a really extraordinary phenomenon, and that is the end of the Great Divergence.

Who's got the work ethic now? Take a look at mathematical attainment by 15 year-olds. At the top of the international league table according to the latest PISA study, is the Shanghai district of China. The gap between Shanghai and the United Kingdom and the United States is as big as the gap between the U.K. and the U.S. and Albania and Tunisia. You probably assume that because the iPhone was designed in California but assembled in China that the West still leads in terms of technological innovation. You're wrong. In terms of patents, there's no question that the East is ahead. Not only has Japan been ahead for some time, South Korea has gone into third place, and China is just about to overtake Germany. Why? Because now any society can adopt these institutions, and when they do, they achieve what the West achieved after 1500… only faster.

This is the Great Reconvergence, and it's the biggest story of this lifetime. Because it's on your watch that this is happening. It's our generation that is witnessing the end of Western predominance. The average American used to be more than 20 times richer than the average Chinese. Now it's just five times, and soon it will be 2.5 times.

Close to 2016 the United States will lose its place as number one economy to China. One obvious implication of modern economic history is that it's quite hard to transition to democracy before you've established secure private property rights. Warning: that may not work. John Locke systematized when he said that freedom was rooted in private property rights and the protection of law. That's the basis for the Western model of representative government.

Winston Churchill once defined civilization in a lecture he gave in the fateful year of 1938. And I think these words really nail it: "It means a society based upon the opinion of civilians. It means that violence, the rule of warriors and despotic chiefs, the conditions of camps and warfare, of riot and tyranny, give place to parliaments where laws are made, and independent courts of justice in which over long periods those laws are maintained. That is civilization and in its soil grows continually freedom, comfort and culture. When civilization reigns in any country, a wider and less harassed life is afforded to the masses of the people." That's so true.

The decline of Western civilization is not inevitable. That's not the way history works. That's not the way the West rose, and it's not the way the West will fall. The West may collapse very suddenly. Complex civilizations do that, because they operate, most of the time, on the edge of chaos. That's one of the most profound insights to come out of the historical study of complex institutions like civilizations. No, we may hang on, despite the huge burdens of debt that we've accumulated, despite the evidence that we've lost our work ethic and other parts of our historical mojo. But one thing is for sure; the Great Divergence is over, folks.

And it’s not just talking about the rise of the East; it’s about the rise of the Rest, and that includes South America. If you look at what is happening in Brazil in particular, but also Chile, which was in many ways the one that led the way in transforming the institutions of economic life, there's a very bright future indeed.

North America and Europe are not really paying attention to these trends. Mostly they're worried about each other. The Americans think that the European model is going to crumble tomorrow. The Europeans think that the American budget is going to explode tomorrow. And that's all we seem to be caring about recently.

The fiscal crisis that we see in the developed world right now - both sides of the Atlantic - is essentially the same thing taking different forms in terms of political culture. And it's a crisis

that has its structural facet; it's partly to do with demographics. But it's also, of course, to do with the massive crisis that followed excessive leverage, excessive borrowing in the private sector. That crisis, which has been the focus of so much attention, is an epiphenomenon. The financial crisis is really a relatively small historic phenomenon, which has just accelerated this huge shift, which ends half a millennium of Western ascendancy.

Flashes of change.

In order to create a new and powerful society we must first define new "rules". Bad rules can prevent the kind of win-win solution that's available when people can bring new technologies in and make them available to everyone. What kinds of rules?

The real challenge here is to try to figure out how we can make and hot we can change the rules. Are there some rules we can develop for changing rules? There is a general abstract insight that we can make practical, which is that, if we can give more choices to people and more choices to leaders but, it's useful to present the opposition between these two. Because the kind of choice you might want to give to a leader, takes away a choice that people in the economy want. If you give just to one side or the other, you'll have tension or friction. But if we can find ways to give more choices to both, that will give us a set of rules for changing rules that get us out of traps.

If you want to see the damaging effects of rules, the ways that rules can keep people in the dark, look at the pictures from NASA of the earth at night. In particular check out Asia. If you zoom in here, you can see North Korea, in outline here, which is like a black hole compared to its neighbors. Now, you won't be surprised to learn that the rules in North Korea keep people there in the dark.

But it is important to recognize that North Korea and South Korea started out with identical sets of rules in both the sense of laws and regulations, but also in the deeper senses of understandings, norms, culture, values and beliefs. When they separated, they made choices that led to very divergent paths for their sets of rules. So we can change, we as humans can change the rules that we use to interact with each other, for better, or for worse.

Now let's look at another region, the Caribbean. Zoom in on Haiti. Haiti is also dark, compared to its neighbor, the Dominican Republic, which has about the same number of residents. Both of these countries are dark compared to Puerto Rico, which has half as many residents as either Haiti or the Dominican Republic. What Haiti warns us is that rules can be bad because governments are weak. It's not just that the rules are bad because the government is too strong and oppressive, as in North Korea. So that if we want to create environments with good rules, we can't just tear down. We've got to find ways to build up, as well.

Now, China dramatically demonstrates both the potential and the challenges of working with rules. Back in the beginnings, more then 2000 years ago, China was the world's high-technology leader. Chinese had pioneered technologies like steel, printing, gunpowder. But the Chinese never adopted, at least in those period, effective rules for encouraging the spread of those ideas, a profit motive that could have encouraged the spread. And they soon adopted rules which slowed down innovation and cut China off from the rest of the world. So as other countries in the world innovated, in the sense both of developing newer technologies, but also developing newer rules, the Chinese were cut off from those advances. Income there stayed stagnant, as it zoomed ahead in the rest of the world.

But in the late '70s something changed. Growth took off in China. The Chinese started catching up very quickly with the United States. If you go back to the map at night, you can get a clue to the process that lead to the dramatic change in rules in China. The brightest spot in China, is Hong Kong. Hong Kong was a small bit of China that, for most of the 20th century, operated under a very different set of rules than the rest of mainland China, rules that were copied from working market economies of the time, and administered by the British.

In the 1950s, Hong Kong was a place where millions of people could go, from the mainland, to start in jobs like sewing shirts, making toys. But, to get on a process of increasing income, increasing skills led to very rapid growth there. Hong Kong was also the model which leaders like Deng Xiaoping could copy, when they decided to move the entire mainland towards the market model.

But Deng Xiaoping instinctively understood the importance of offering choices to his people. So instead of forcing everyone in China to shift immediately to the market model, they proceeded by creating some special zones that could do, in a sense, what Britain did: make the opportunity to go work with the market rules available to the people who wanted to opt in there. So they created four special economic zones around Hong Kong: zones where Chinese could come and work and cities grew up very rapidly there; also zones where foreign firms could come in and make things.

One of the zones next to Hong Kong has a city called Shenzhen. In that city there is a Taiwanese firm that made the iPhone that many of you have, and they made it with labor from Chinese who moved there to Shenzhen. So after the four special zones, there were 14 coastal cites that were open in the same sense, and eventually demonstrated successes in these places that people could opt in to, that they flocked to because of the advantages they offered. Demonstrated successes there led to a consensus for a move toward the market model for the entire economy.

Now the Chinese example shows us several points. One is: preserve choices for people. Two: operate on the right scale. If you try to change the rules in a village, you could do that, but a village would be too small to get the kinds of benefits you can get if you have millions of people all working under good rules. On the other hand, the nation is too big. If you try to change the rules in the nation, you can't give some people a chance to hold back and let others zoom ahead and try the new rules. But cities give you this opportunity to create new places, with new rules that people can opt in to. And they're large enough to get all of the benefits that we can have when millions of us work together under good rules.

The final things we need are choices for leaders. And to achieve the kind of choices we want for leaders we need to allow for the potential for partnerships between nations: cases where nations work together, in effect, de facto, the way China and Britain worked together to build, first a little enclave of the market model, and then scale it throughout China. In a sense, Britain, inadvertently, through its actions in Hong Kong, did more to reduce world poverty than all the aid programs that were undertaken in the last century. So if we allow for these kinds of partnerships to replicate this again, we can get those kinds of benefits scaled throughout the world.

In some cases this will involve a delegation of responsibility, a delegation of control from one country to another to take over certain kinds of administrative responsibilities. Some of you are starting to think, "Well, is this just bringing back colonialism?" It's not. But it's important to recognize that the kind of emotions that come up when we start to think about these things,

can get in the way, can make us pull back, can shut down our ability, and our interest in trying to explore new ideas.

Why is this not like colonialism? The thing that was bad about colonialism, and the thing which is residually bad in some of our aid programs, is that it involved elements of coercion and condescension. This model is all about choices, both for leaders and for the people who will live under a new set of rules. And, choice is the antidote to coercion and condescension. We must create and deliver a truly global win-win solution.

There is so many people on earth who can generate a power of ideas. We can share ideas with other people, and when they discover them, they share with us. It's not like scarce objects, where sharing means we each get less. When we share ideas we all get more. When we think about ideas in that way, we usually think about technologies.

But there is another class of ideas: the rules that govern how we interact with each other; rules like, let's have a tax system that supports a research university that gives away certain kinds of knowledge for free. Let's have a system where we have ownership of land that is registered in a government office that people can pledge as collateral.

If we can keep innovating on our space of rules, and particularly innovate in the sense of coming up with rules for changing rules, so we don't get stuck with bad rules, then we can keep moving progress forward and truly make the world a better place. Some ideas about these new set of rules for a new type of society I want to present them latter in a dedicated chapter called “Tools for a better world. Open-source society”.

The God Complex.

We can describe the God complex very easily as no matter how complicated the problem, you have an absolutely overwhelming belief that you are infallibly right in your solution.

I’ve encountered this God complex at doctors for example. But nowadays we can find it almost anywhere. I see it at economists. I see it in our business leaders. I see it in the politicians we vote for, people who, in the face of an incredibly complicated world, are nevertheless absolutely convinced that they understand the way that the world works. And you know, with the future billions that we've been hearing about, the world is simply far too complex to understand in that way. We live in a very complex economy that we've created.

So this is the complexity of the world that surrounds us. This perhaps is why we find the God complex so tempting. We tend to retreat and say, "We can draw a picture, we can post some graphs, we get it, we understand how this works." And we don't. We never do. Now I'm not trying to deliver a nihilistic message here. I'm not trying to say we can't solve complicated problems in a complicated world. We clearly can. But the way we solve them is with humility. My take is to try to abandon the God complex and to actually use a problem-solving technique that works. And we have a problem-solving technique that works. Now you show me a successful complex system, and I will show you a system that has evolved through trial and error.

Here's an example: evolution. Over millions of years, variation and selection, variation and selection -- trial and error, trial and error. And it's not just biological systems that produce miracles through trial and error. You could use it in an industrial context.

So let's say you wanted to make detergent. Let's say you're Unilever and you want to make detergent. How do you do it? Well you have this great big tank full of liquid detergent. You pump it at a high pressure through a nozzle. You create a spray of detergent. Then the spray dries. It turns into powder. It falls to the floor. You scoop it up. You put it in cardboard boxes. You sell it at a supermarket. You make lots of money. How do you design that nozzle? It turns out to be very important. Now if you ascribe to the God complex, what you do is you find yourself a little God. You find yourself a mathematician; you find yourself a physicist -- somebody who understands the dynamics of this fluid. And he will, or she will, calculate the optimal design of the nozzle. Now Unilever did this and it didn't work - too complicated. Even this problem, was too complicated.

But the geneticist Professor Steve Jones describes how Unilever actually did solve this problem, by trial and error, variation and selection. You take a nozzle and you create 10 random variations on the nozzle. You try out all 10; you keep the one that works best. You create 10 variations on that one. You try out all 10. You keep the one that works best. You try out 10 variations on that one. You see how this works, right? And after 45 generations, you have this incredible nozzle. It looks a bit like a chess piece, functions absolutely brilliantly. We have no idea why it works, no idea at all. And the moment you step back from the God complex, let's just try to have a bunch of stuff; let's have a systematic way of determining what's working and what's not, you can solve your problem.

Now this process of trial and error is actually far more common in successful institutions than we care to recognize. And we've heard a lot about how economies function. The U.S. economy is still the world's greatest economy, not for long, but for the moment it is. How did it become the world's greatest economy? I could give you all kinds of facts and figures about the U.S. economy, but I think the most salient one is this: ten percent of American businesses disappear every year. That is a huge failure rate. It's far higher than the failure rate of, say, Americans. Ten percent of Americans don't disappear every year. Which leads us to conclude American businesses fail faster than Americans, and therefore American businesses are evolving faster than Americans. But it's this process of trial and error that explains this great divergence, this incredible performance of Western economies. It didn't come because you put some incredibly smart person in charge. It's come through trial and error. It’s obviously that trial and error is very important. Obviously experimentation is very important.

But what will happen if we start teaching children that there are some problems that don't have a correct answer. Stop giving them lists of questions every single one of which has an answer. And there's an authority figure in the corner behind the teacher's desk who knows all the answers. And if you can't find the answers, you must be lazy or stupid. When schools will stop doing that all the time? When a politician stands up campaigning for elected office and says, "I want to fix our health system. I want to fix our education system. I have no idea how to do it. I have half a dozen ideas. We're going to test them out. They'll probably all fail. Then we'll test some other ideas out. We'll find some that work. We'll build on those. We'll get rid of the ones that don't." When a politician campaigns on that platform, and more importantly, when voters like you and me are willing to vote for that kind of politician, then indeed we will slowly but surely start to evolve.

But until then, we should abandon the God complex, because it's so hard to admit our own fallibility. It's so uncomfortable.

After the war, this young man, Yutaka Taniyama, developed this amazing conjecture called the Taniyama-Shimura Conjecture. It turned out to be absolutely instrumental many decades

later in proving Fermat's Last Theorem. In fact, it turns out its equivalent to proving Fermat's Last Theorem. You prove one, you prove the other. But it was always a conjecture. Taniyama tried and tried and tried and he could never prove that it was true. And shortly before his 30th birthday in 1958, Yutaka Taniyama killed himself. His friend, Goro Shimura - who worked on the mathematics with him - many decades later, reflected on Taniyama's life. He said, "He was not a very careful person as a mathematician. He made a lot of mistakes. But he made mistakes in a good direction. I tried to emulate him, but I realized it is very difficult to make good mistakes."

Can we develop a "moral operating system"?

Think about Power. That is the word that comes to mind. We're the new technologists. We have a lot of data, so we have a lot of power. How much power do we have? Let's think at all of the data that we have.

Let's take an example. What the government can do with just one person's data? They can look at your financial records. They can tell if you pay your bills on time. They know if you're good to give a loan to. They can look at your medical records; they can see if your hart is still pumping, see if you're good to be insured. They can look at your clicking patterns. When you come to a website, they actually know what you're going to do already because they've seen you visit millions of websites before. And I'm sorry to tell you, you're like a poker player, you have a story. They can tell with data analysis what you're going to do before you even do it. They know what you like. They know who you are, and that's even before they look at your mail or your phone.

Those are the kinds of things they can do with the data that they have. But let's think now not about what they can do, let's think about what they should do. What's the right thing for them and for us to do?

Think about World War II when some of mankind great technologists then, some of mankind great physicists, studying nuclear fission and fusion. They gather together these physicists in Los Alamos to see what they'll build. We want the people building the technology thinking about what we should be doing with the technology.

So what should they be doing with that one person's data? Should they be collecting it, gathering it, so they can control his actions better? So they can make money? So they can intervene if he was up to no good? Or should they respect his privacy, protect his dignity and leave him alone? Which one is it?

How about the moral framework we should use to guide our decisions. How do we know what to do with all the power we have if we don't have a moral framework? What we really need is a moral operating system. What's a moral operating system? We all know right and wrong, right? You feel good when you do something right, you feel bad when you do something wrong. Our parents teach us that: praise with the good, scold with the bad. But how do we figure out what's right and wrong? And from day to day, we have the techniques that we use. Maybe we just follow our gut. Maybe we take a vote, we crowdsource. Or maybe we punt, ask the legal department and see what they say. In other words, it's kind of random, kind of ad hoc, how we figure out what we should do. And maybe, if we want to be on surer footing, what we really want is a moral framework that will help guide us there, that will tell us what kinds of things are right and wrong in the first place, and how would we know in a given situation what to do.

So let's get a moral framework. We're numbers people, living by numbers. How can we use numbers as the basis for a moral framework? I know a guy who did exactly that. A brilliant guy he's been dead 2,500 years. Plato. And he had a lot of the same concerns that we did. He was worried about right and wrong. He wanted to know what is just. But he was worried that all we seem to be doing is trading opinions about this. He says something's just. She says something else is just. It's kind of convincing when he talks and when she talks too. I'm just going back and forth; I'm not getting anywhere. I don't want opinions; I want knowledge. I want to know the truth about justice just like we have truths in math. In math, we know the objective facts. Take a number, any number, two. There are truths about two. If you've got two of something, you add two more, you get four. That's true no matter what thing you're talking about. It's an objective truth about the form of two, the abstract form. When you have two of anything -- two eyes, two ears, two noses, just two protrusions -- those all partake of the form of two. They all participate in the truths that two has. They all have two-ness in them. And therefore, it's not a matter of opinion.

What if, Plato thought, ethics was like math? What if there was a pure form of justice? What if there are truths about justice, and you could just look around in this world and see which things participated, partook of that form of justice? Then you would know what was really just and what wasn't. It wouldn't be a matter of just opinion or just appearances. That's a stunning vision. I mean, think about that. How grand. How ambitious. That's as ambitious as we are. He wants to solve ethics. He wants objective truths. If you think that way, you have a Platonist moral framework.

If you don't think that way, well, you have a lot of company in the history of Western philosophy, because the tidy idea, you know, people criticized it. Aristotle, in particular, he was not amused. He thought it was impractical. Aristotle said, "We should seek only so much precision in each subject as that subject allows." Aristotle thought ethics wasn't a lot like math. He thought ethics was a matter of making decisions in the here-and-now using our best judgment to find the right path. If you think that, Plato's not your guy. But don't give up. Maybe there's another way that we can use numbers as the basis of our moral framework.

How about this: What if in any situation you could just calculate, look at the choices, measure out which one's better and know what to do? That sounds familiar? That's a utilitarian moral framework. John Stuart Mill was a great advocate of this and only been dead 200 years. What if a moral, what if what makes something moral is just a matter of if it maximizes pleasure and minimizes pain? It does something intrinsic to the act. It's not like its relation to some abstract form. It's just a matter of the consequences. You just look at the consequences and see if, overall, it's for the good or for the worse. That would be simple. Then we know what to do.

There are things that are intrinsically wrong, like lying is wrong, like torturing innocent children is wrong. Kant was very good on this point, and he said it a little better than I'll say it. He said we should use our reason to figure out the rules by which we should guide our conduct, and then it is our duty to follow those rules. It's not a matter of calculation.

How should we be making our decisions? Is it Plato, is it Aristotle, is it Kant, is it Mill? What should we be doing? What's the answer? What's the formula that we can use in any situation to determine what we should do, whether we should use that guy's data or not? What's the formula? The fact is that there's not a formula. There's not a simple answer.

Ethics is hard. Ethics requires thinking. And that's uncomfortable. But nether the less not only that we can think, we must. Hannah Arendt said, "The sad truth is that most evil done in this world is not done by people who choose to be evil. It arises from not thinking." That's what she called the "banality of evil." And the response to that is that we demand the exercise of thinking from every sane person.

So let's do that. Let's think. Think of the last time you had a decision to make where you were worried to do the right thing, where you wondered, "What should I be doing?" Bring that to mind, and now reflect on that and say, "How did I come up that decision? What did I do? Did I follow my gut? Did I have somebody vote on it? Or did I punt to legal?" Or now we have a few more choices. "Did I evaluate what would be the highest pleasure like Mill would? Or like Kant, did I use reason to figure out what was intrinsically right?" Think about it. Really bring it to mind. This is important. That's the first step towards taking responsibility for what we should do with all of our power.

Some important things about happiness.

Scientifically it turns out that men and women report very, very similar levels of happiness. That climate plays no role. That if you live in the best climate, in San Diego in the United States, or in the shittiest climate, in Buffalo, New York, you are going to be just as happy in either place. If you make more than 50,000 bucks a year in the U.S., any salary increase you're going to experience will have only a tiny, tiny influence on your overall well-being. Black people are just as happy as white people are. If you're old or young it doesn't really make a difference. If you're ugly or if you're really, really good-looking it makes no difference whatsoever. You will adapt to it and get used to it. If you have manageable health problems it doesn't really matter.

So, what matters? It turned out that if you have a lot of friends, and you have meaningful friendships, that does make a lot of difference. As well as being married, you are likely to be much happier than if you are single.

Jonathan Haidt, came up with this beautiful little analogy between the conscious and the unconscious mind. He says that the conscious mind is this tiny rider on this giant elephant, the unconscious. And the rider thinks that he can tell the elephant what to do, but the elephant really has his own ideas. All of us are very much in charge of the big decisions in our lives. We live where we want to be - at least in the West. We become what we really are interested in. We choose our own profession, and we choose our own partners. And so it's quite surprising that many of us let our unconscious influence those decisions in ways that we are not quite aware of.

In 1954, a guy named Rabbi Hyman Schachtel wrote a book called "The Real Enjoyment of Living," and he suggested that happiness is not about having what you want; instead, it's about wanting what you have. Happiness equals wanting what you have divided by having what you want. That is like defining an emotional equation.

The reality is, in Western countries, quite often we do focus on the pursuit of happiness as if happiness is something that we have to go out, an object that we're supposed to get, or maybe many objects. Actually, in fact, if you look in the dictionary, many dictionaries define pursuit as to "chase with hostility." Do we pursue happiness with hostility? In the west, we do.

Your Ego.

You have an ego, but you cannot turn it off. The ego it's the worst enemy of our own that we can imagine; because you don't see it. The problem is that ego it's hiding in the last place in which you will look. Into yourself. It disguising his thoughts into your mind, his feelings into your feelings. You think it's you.

The need of people to protect their ego knows no limits. They'll lie, they'll cheat, they'll steal, they'll kill, they'll do whatever is necessary to maintain the ego boundaries.

People have no clue that they are imprisoned. They do not know that there is an ego. They do not know how to make a difference. At first, it is difficult for the mind to accept that there's something there, beyond itself, which is something with higher and greater capacity to discern the truth then itself.

In religion, the ego is manifested as the Devil. Nobody realized how smart the ego is; he created the devil so you can blame someone else. By creating this imaginary eternal enemy, he also created a real enemy for us and that becomes a threat to ego, but it is also an ego creation.

There is no external enemy, no matter what say that voice in your head. All perceptions of an enemy are projections of the ego as the enemy. In this sense, we can say that 100% of our external enemies are our own creation. The biggest enemy is your own perception, your own ignorance, your own ego.

Understanding China

The world is changing with really remarkable speed. Goldman Sachs projections suggest that the Chinese economy will be almost the same size as the American economy in 2025. By 2050, it's projected that the Chinese economy will be twice the size of the American economy, and the Indian economy will be almost the same size as the American economy. And we should bear in mind here that these projections were drawn up before the Western financial crisis.

The latest projection by BNP Paribas for when China will have a larger economy than the United States. Goldman Sachs projected 2027. The post-crisis projection is 2020. That's just a decade away. China is going to change the world in two fundamental respects. First of all, it's a huge developing country with a population of 1.3 billion people, which has been growing for over 30 years at around 10 percent a year.

And within a decade, it will have the largest economy in the world. Never before in the modern era has the largest economy in the world been that of a developing country, rather than a developed country. Secondly, for the first time in the modern era, the dominant country in the world will be not from the West and from very, very different civilizational roots.

It's a widespread assumption in the West that as countries modernize, they also westernize. This is an illusion. It's an assumption that modernity is a product simply of competition, markets and technology. It is not. It is also shaped equally by history and culture. China is not like the West, and it will not become like the West. It will remain in very fundamental respects very different. Now the big question here is obviously, how do we make sense of China? How do we try to understand what China is? And the problem we have in the West at the moment, by and large, is that the conventional approach is that we understand it really in

Western terms, using Western ideas. We can't. Now I want to offer you three building blocks for trying to understand what China is like, just as a beginning.

The first is this: that China is not really a nation-state. Okay, it's called itself a nation-state for the last hundred years, but everyone who knows anything about China knows it's a lot older than this. This was what China looked like with the victory of the Qin Dynasty in 221 B.C. at the end of the warring-state period - the birth of modern China. And you can see it against the boundaries of modern China. Or immediately afterward, the Han Dynasty, still 2,000 years ago. And you can see already it occupies most of what we now know as Eastern China, which is where the vast majority of Chinese lived then and live now.

Now what is extraordinary about this is, what gives China its sense of being China, what gives the Chinese the sense of what it is to be Chinese, comes not from the last hundred years, not from the nation-state period, which is what happened in the West, but from the period, if you like, of the civilization-state. I'm thinking here, of a very distinctive notion of the state, likewise, a very distinctive notion of the family, social relationships like guanxi, Confucian values and so on. These are all things that come from the period of the civilization-state. In other words, China, unlike the Western states and most countries in the world, is shaped by its sense of civilization, its existence as a civilization-state, rather than as a nation-state. And there's one other thing to add to this, and that is this: Of course we know China's big, huge, demographically and geographically, with a population of 1.3 billion people. What we often aren't really aware of is the fact that China is extremely diverse and very pluralistic, and in many ways very decentralized. You can't run a place on this scale simply from Beijing, even though we think this to be the case. It's never been the case.

So this is China, a civilization-state, rather than a nation-state. And what does it mean? It has all sorts of profound implications. I'll give you two quick ones. The first is that the most important political value for the Chinese is unity, is the maintenance of Chinese civilization. You know, 2,000 years ago, Europe: breakdown, the fragmentation of the Holy Roman Empire. It divided, and it's remained divided ever since. China, over the same time period, went in exactly the opposite direction, very painfully holding this huge civilization, civilization-state, together.

The second is maybe more prosaic, which is Hong Kong. Do you remember the handover of Hong Kong by Britain to China in 1997? You may remember what the Chinese constitutional proposition was. One country, two systems. And I'll lay a wager that barely anyone in the West believed them. "Window dressing. When China gets its hands on Hong Kong, that won't be the case." Thirteen years on, the political and legal system in Hong Kong is as different now as it was in 1997. We were wrong. Why were we wrong? We were wrong because we thought, naturally enough, in nation-state ways. Think of German unification, 1990. What happened? Well, basically the East was swallowed by the West. One nation, one system. That is the nation-state mentality. But you can't run a country like China, a civilization-state, on the basis of one civilization, one system. It doesn't work. So actually the response of China to the question of Hong Kong - as it will be to the question of Taiwan - was a natural response: one civilization, many systems.

Here is another way to try to understand China, maybe not sort of a comfortable one. The Chinese have a very, very different conception of race to most other countries. Do you know, of the 1.3 billion Chinese, over 90 percent of them think they belong to the same race, the Han? Now, this is completely different from the world's most populous countries. India, the United States, Indonesia, Brazil all of them are multiracial. The Chinese don't feel like that.

China is only multiracial really at the margins. So the question is, why? Well the reason, I think, essentially is, again, back to the civilization-state. A history of at least 2,000 years, a history of conquest, occupation, absorption, assimilation and so on, led to the process by which, over time, this notion of the Han emerged of course, nurtured by a growing and very powerful sense of cultural identity.

Now the great advantage of this historical experience has been that, without the Han, China could never have held together. The Han identity has been the cement which has held this country together. The great disadvantage of it is that the Han have a very weak conception of cultural difference. They really believe in their own superiority, and they are disrespectful of those who are not. Hence their attitude, for example, to the Uyghurs and to the Tibetans.

Also the relationship between the state and society in China is very different from that in the West. Now we in the West overwhelmingly seem to think - in these days at least - that the authority and legitimacy of the state is a function of democracy. The problem with this proposition is that the Chinese state enjoys more legitimacy and more authority amongst the Chinese than is true with any Western state. And the reason for this is because - well, there are two reasons, I think. And it's obviously got nothing to do with democracy, because in our terms the Chinese certainly don't have a democracy. And the reason for this is, firstly, because the state in China is given a very special, it enjoys a very special significance as the representative, the embodiment and the guardian of Chinese civilization, of the civilization-state. This is as close as China gets to a kind of spiritual role.

And the second reason is because, whereas in Europe and North America, the state's power is continuously challenged - I mean in the European tradition, historically against the church, against other sectors of the aristocracy, against merchants and so on for 1,000 years, the power of the Chinese state has not been challenged. It's had no serious rivals. So you can see that the way in which power has been constructed in China is very different from our experience in Western history. The result, by the way, is that the Chinese have a very different view of the state. Whereas we tend to view it as an intruder, a stranger, certainly an organ whose powers need to be limited or defined and constrained, the Chinese don't see the state like that at all. The Chinese view the state as the head of the family, the patriarch of the family. This is the Chinese view of the state very, very different to ours. It's embedded in society in a different kind of way to what is the case in the West.

And I would suggest to you that actually what we are dealing with here, in the Chinese context, is a new kind of paradigm, which is different from anything we've had to think about in the past. Know that China believes in the market and the state. I mean, Adam Smith, already writing in the late 18th century, said, "The Chinese market is larger and more developed and more sophisticated than anything in Europe." And, apart from the Mao period, that has remained more or less the case ever since. But this is combined with an extremely strong and ubiquitous state. The state is everywhere in China. I mean, its leading firms, many of them are still publicly owned. Private firms, however large they are, like Lenovo, depend in many ways on state patronage. Targets for the economy and so on are set by the state. And the state, of course, its authority flows into lots of other areas - as we are familiar with - with something like the one-child policy.

Moreover, this is a very old state tradition, a very old tradition of statecraft. I mean, if you want an illustration of this, the Great Wall is one. But how about the Grand Canal, which was constructed in the first instance in the fifth century B.C. and was finally completed in the seventh century A.D. It went for 1,114 miles, linking Beijing with Hangzhou and Shanghai.

So there's a long history of extraordinary state infrastructural projects in China, which I suppose helps us to explain what we see today, which is something like the Three Gorges Dam and many other expressions of state competence within China.

And yet we still insist, by and large, in thinking that we can understand China by simply drawing on Western experience, looking at it through Western eyes, using Western concepts. If you want to know why we unerringly seem to get China wrong - our predictions about what's going to happen to China are incorrect - this is the reason. Unfortunately, the attitude towards China is that of a kind of little Westerner mentality. It's kind of arrogant. It's arrogant in the sense that we think that we are best, and therefore we have the universal measure. And secondly, it's ignorant. We refuse to really address the issue of difference. You know, there's a very interesting passage in a book by Paul Cohen, the American historian. And Paul Cohen argues that the West thinks of itself as probably the most cosmopolitan of all cultures. But it's not. In many ways, it's the most parochial, because for 200 years, the West has been so dominant in the world that it's not really needed to understand other cultures, other civilizations. Because, at the end of the day, it could, if necessary by force, get its own way. Whereas those cultures, virtually the rest of the world, in fact, which have been in a far weaker position, vis-a-vis the West, have been thereby forced to understand the West, because of the West's presence in those societies. And therefore, they are, as a result, more cosmopolitan in many ways than the West.

I mean, take the question of East Asia. East Asia: Japan, Korea, China, a third of the world's population lives there. Now the largest economic region in the world. What is happening is that, very rapidly in historical terms, the world is being driven and shaped, not by the old developed countries, but by the developing world. We've seen this in terms of the G20 usurping very rapidly the position of the G7, or the G8. And there are two consequences of this. First, the West is rapidly losing its influence in the world. There was a dramatic illustration of this actually at Copenhagen, climate change conference. Europe was not at the final negotiating table. When did that last happen? I would wager it was probably about 200 years ago. And that is what is going to happen in the future.

And the second implication is that the world will inevitably, as a consequence, become increasingly unfamiliar to us, because it'll be shaped by cultures and experiences and histories that we are not really familiar with, or conversant with. And at last, I'm afraid - take Europe; America is slightly different - but Europeans by and large, I have to say, are ignorant, are unaware about the way the world is changing. The continent is sleepwalking into oblivion. Well, maybe that's true, maybe that's an exaggeration. But there's another problem which goes along with this - that Europe is increasingly out of touch with the world - and that is a sort of loss of a sense of the future.

If you want to feel the future, if you want to taste the future, try China, there's old Confucius. This is a railway station the likes of which you've never seen before. It doesn't even look like a railway station. This is the new Guangzhou railway station for the high-speed trains. China already has a bigger network than any other country in the world and will soon have more than all the rest of the world put together. Or take this: now this is an idea, but it's an idea to be tried out shortly in a suburb of Beijing. Here you have a megabus, on the upper deck carries about 2,000 people. It travels on rails down a suburban road, and the cars travel underneath it. And it does speeds of up to about 100 miles an hour. Now this is the way things are going to move, because China has a very specific problem, which is different from Europe and different from the United States: China has huge numbers of people and no space. So this

is a solution to a situation where China's going to have many, many, many cities over 20 million people.

What should our attitude be towards this world that we see very rapidly developing before us? I think there will be good things about it and there will be bad things about it. But I want to argue, above all, a big-picture positive for this world. For 200 years, the world was essentially governed by a fragment of the human population. That's what Europe and North America represented. The arrival of countries like China and India - between them 38 percent of the world's population - and others like Indonesia and Brazil and so on, represent the most important single act of democratization in the last 200 years. Civilizations and cultures, which had been ignored, which had no voice, which were not listened to, which were not known about, will have a different sort of representation in this world. As humanists, we must welcome, surely, this transformation, and we will have to learn about these civilizations.

I'll end this chapter with the conclusion that it’s not actually about humanity decaying in general, is about the western society decaying.

Chapter 2: The current political and social structure. The power shift.

False Dichotomies

Offering two false choices is the surest way of manipulating someone into making a bad decision. We must be on guard for false dichotomies, opposites that only appear to be so on the surface. Alien impostors have used this method of subterfuge to hide their real agenda and shape public opinion. Examples: aliens vs. paranoid military cabal, nordics / grays vs. violent reptilians, or good reptilians vs. renegade negative reptilians. If the truth were that grays, certain nordics, human military factions, and reptilians were actually unified participants in the negative alien agenda, the motivation for these false dichotomies makes perfect sense. Should mankind falsely perceive some of these elements as "good guys" due to their seeming opposition to obvious "bad guys", then the deception succeeds. Therefore we must thoroughly examine the basis of any claimed oppositions**.**

What we have today under the form of government it's a mix of politicians, business mens with the bankers at the core. In the western world as well as in the vast majority of the world we have basically an oligarchy which under the cover of many years created a corporatocracy.

The truth is that the world has never known what the democracy really is. We never truly experienced one. The closest country to a democracy was United States but only for a short period of time. It is impossible to have a democracy in a monetary based economy. From the beginning of times "democracy" was made by people with money and power. The big money it's held by roughly 1 of the population, so this 1% creates the rules and the rest of 99% receive a "story" about who to elect, a "democrat" a "republican", a "left" party, a "right" party, a white man or a black man. And the beautiful part of all of it, it's that it didn't count what the people chose as every choice it's owned by the people with money.

This situation it's an unnatural one. It is only encountered in human society. In nature you do not see this kind of resources distribution as it will be encountered, nature will never continued to exist to this day. If we want to continue to exist as specie we must cease to perpetuate this utterly seek distribution of power and resources.

The more you begin to investigate, what we think we understand, what we think we're doing, the more you begin to see we've been lied to. The more you educate yourself, the more you understand where things come from - the more obvious things become and you begin to see lies everywhere.

The whole system that we live in drills into us that we're powerless, that we're weak, that our society is evil, that it's fraudulent et cetera and so forth. It's all a big fat lie. There is no reason why you cannot understand how the system work and, where it leads to. There is no reason why the average individual cannot be fully empowered.

Third world countries?

When we speak of third world countries; we must ask ourselves who exactly made them to be third world? Who is forcing people to migrate to the "developed world" by abusing their resources, by abusing their labor, by abusing their debt status, by abusing law? Which nations are responsible? The governments in 3rd world...what are they like? Democratic? Maybe on paper! Who put them in power? What is the history of coup de etat's and who is behind them?

All this is the hand of the “developed” world. Any 3rd world country can be trusted just as much as any 1st world country...and 1st or 3rd world country has just about the same amount of criminals that can missus things... The only difference is that in a 3rd world nation a criminal will be working bare foot in an opium poppy fields and the 1st nation criminal will drive around is his brand new BMW handling the distribution....

I also do not buy the notion that criminal headquarters aka United Nations will be "reformed" and that governments of the world will see the light and be all just and honorable and responsible...just like that....due to the...what?....public demand?

Politicians have a problem with thinking, since people allow them to be like that. Now if you are counting on people to "stand their ground" and make changes... well you can just forget about it. People do not care. If you are hoping what you call God will help you... you can forget that either.

Everywhere we have criminals in power, mobsters. Left or right... all the same. They deceive people into thinking they have a choice. When your "beloved leader" makes an appearance on national TV, you’ll go and cherish him. It’s “divide and conquer”; but at least we are allowed to do more things. Some say we have rights. That is false. We have no rights, we only have a list of things we are allowed to do. Today we basically live in a prison with a low security level. By giving us more freedom they have less expense with control and also work force is more productive in none open totalitarian regimes.

About the "economy"; in the current petro-world circumstances you need about 300 million people to make food for all the rest and about 300 million people to make "products" for all the rest. All the rest can go in a vacation. But it is the system in power that prevents that. Because they equal prosperity with economic growth and economic growth in today terms means abuse of... pretty much everything.

Who should we trust with the power of decisions in a third world country: A democratic leader controlled by a dozen of big institutions or companies? A democratic leader controlled by a local mafia? A democratic leader controlled by other democratic leader? A union of non-elected democratic leaders? A king? A supreme leader? An ordinary every day person?

The global power-shift in the 21st century.

Power is changing, and there are two types of changes. One is power transition, which is change of power amongst states. And there the simple version of the message is it's moving from West to East. The other is power diffusion, the way power is moving from all states West or East to non-state actors. Those two things are the huge shifts of power in our century. But the power it not only moves from a country to another or from a region to another, it also moves from governments to the people, to the individual.

When we talk about power transition, we often talk about the rise of Asia. It really should be called the recovery or return of Asia. If we looked at the world in 1800, you'd find that more than half of the world's people lived in Asia and they made more than half the world's product. Now fast forward to 1900: half the world's people, more than half, still live in Asia, but they're now making only a fifth of the world's product. What happened? The Industrial Revolution, which meant that all of a sudden, Europe and America became the dominant center of the world. What we're going to see in the 21st century is Asia gradually returning to being more than half of the world's population and more than half of the world's product.

That's important and it's an important shift. But let me tell you a little bit about the other shift that I'm talking about, which is power diffusion.

To understand power diffusion put this in your mind: computing and communications costs have fallen a thousand fold between 1970 and the beginning of this century. Now that's a big abstract number. But to make it more real, if the price of an automobile had fallen as rapidly as the price of computing power, you could buy a car today for five dollars. Now when the price of any technology declines that dramatically, the barriers to entry go down. Anybody can play in the game. So in 1970, if you wanted to communicate from Oxford to Johannesburg to New Delhi to Brasilia and anywhere simultaneously, you could do it. The technology was there. But to be able to do it, you had to be very rich -- a government, a multinational corporation, maybe the Catholic Church -- but you had to be pretty wealthy. Now, anybody has that capacity, which previously was restricted by price just to a few actors. So capabilities that were once restricted are now available to everyone.

And what that means is not that the age of the State is over. The State still matters. But the stage is crowded. The State's not alone. There are many, many actors. Some of that's good: Oxfam, a great non-governmental actor. Some of it's bad: Al Qaeda, another non-governmental actor. But think of what it does to how we think in traditional terms and concepts. We think in terms of war and interstate war. And you can think back to 1941 when the government of Japan attacked the United States at Pearl Harbor. It's worth noticing that a non-state actor attacking the United States in 2001 killed more Americans than the government of Japan did in 1941. You might think of that as the privatization of war. So we're seeing a great change in terms of diffusion of power.

Now the problem is that we're not thinking about it in very innovative ways. Power is simple the ability to affect others to get the outcomes you want, and you can do it in three ways. You can do it with threats of coercion, "sticks," you can do it with payments, "carrots," or you can do it by getting others to want what you want. And that ability to get others to want what you want, to get the outcomes you want without coercion or payment, it’s called soft power. And that soft power has been much neglected and much misunderstood, and yet it's tremendously important. Indeed, if you can learn to use more soft power, you can save a lot on carrots and sticks. Traditionally, the way people thought about power was primarily in terms of military power. A.J.P. Taylor, defined a great power as a country able to prevail in war. But we need a new narrative if we're to understand power in the 21st century. It's not just prevailing at war, though war still persists. It's not whose army wins; it's also whose story wins. And we have to think much more in terms of narratives and whose narrative is going to be effective.

The narrative here is the rise and fall of the great powers. And the current narrative is all about the rise of China and the decline of the United States. Indeed, with the 2008 financial crisis, many people said this was the beginning of the end of American power. The tectonic plates of world politics were shifting. And president Medvedev of Russia, for example, pronounced in 2008 this was the beginning of the end of United States power. But in fact, this metaphor of decline is often very misleading. If you look at history, in recent history, you'll see the cycles of belief in American decline come and go every 10 or 15 years or so. In 1958, after the Soviets put up Sputnik, it was "That's the end of America." In 1973, with the oil embargo and the closing of the gold window, that was the end of America. In the 1980s, as America went through a transition in the Reagan period, between the rust belt economy of the midwest to the Silicon Valley economy of California, that was the end of America. But in fact, what we've seen is none of those were true. Indeed, people were over-enthusiastic in the

early 2000s, thinking America could do anything, which led us into some disastrous foreign policy adventures, and now we're back to decline again.

The moral of this story is all these narratives about rise and fall and decline tell us a lot more about psychology than they do about reality. If we try to focus on the reality, then what we need to focus on is what's really happening in terms of China and the United States. Goldman Sachs has projected that China, the Chinese economy, will surpass that of the U.S. by 2027. So we've got, what, 17 more years to go or so before China's bigger. Now someday, with a billion point three people getting richer, they are going to be bigger than the United States. But be very careful about these projections such as the Goldman Sachs projection as though that gives you an accurate picture of power transition in this century. Here are three reasons why it's too simple. First of all, it's a linear projection. History is not linear. There are often bumps along the road, accidents along the way. The second thing is that the Chinese economy passes the U.S. economy in, let's say, 2030, which it may it, which will be a measure of total economic size, but not of per capita income won't tell you about the composition of the economy. China still has large areas of underdevelopment and per capita income is a better measure of the sophistication of the economy. And that the Chinese won't catch up or pass the Americans until somewhere in the latter part, after 2050, of this century.

The other point that's worth noticing is how one-dimensional this projection is. You know, it looks at economic power measured by GDP. Doesn't tell you much about military power, doesn't tell you very much about soft power. It's all very one-dimensional. And also, when we think about the rise of Asia, or return of Asia as I called it a little bit earlier, its worth remembering Asia's not one thing. If you're sitting in Japan, or in New Delhi, or in Hanoi, your view of the rise of China is a little different than if you're sitting in Beijing. Indeed, one of the advantages that the Americans will have in terms of power in Asia is all those countries want an American insurance policy against the rise of China. It's as though Mexico and Canada were hostile neighbors to the United States, which they're not. So these simple projections of the Goldman Sachs type are not telling us what we need to know about power transition.

But you might ask, well so what in any case? Why does it matter? Who cares? Is this just a game that diplomats and academics play? The answer is it matters quite a lot. Because, if you believe in decline and you get the answers wrong on this, the facts, not the myths, you may have policies which are very dangerous. Here is an example from history. The Peloponnesian War was the great conflict in which the Greek city state system tore itself apart two and a half millennia ago. What caused it? Thucydides, the great historian of the Peloponnesian War, said it was the rise in the power of Athens and the fear it created in Sparta. Notice both halves of that explanation.

Many people argue that the 21st century is going to repeat the 20th century, in which World War One, the great conflagration in which the European state system tore itself apart and destroyed its centrality in the world that was caused by the rise in the power of Germany and the fear it created in Britain. So there are people who are telling us this is going to be reproduced today, that what we're going to see is the same thing now in this century. No, I think that's wrong. It's bad history. For one thing, Germany had surpassed Britain in industrial strength by 1900. China has not passed yet the United States. But also, if you have this belief and it creates a sense of fear, it leads to overreaction. And the greatest danger we have of managing this power transition of the shift toward the East is fear. To paraphrase Franklin Roosevelt from a different context, the greatest thing we have to fear is fear itself. We don't

have to fear the rise of China or the return of Asia. And if we have policies in which we take it in that larger historical perspective, we're going to be able to manage this process.

Let me say a word now about the distribution of power and how it relates to power diffusion and then pull these two types together. If you ask how power is distributed in the world today, it's distributed much like a three-dimensional chess game. Top board: military power among states. The United States is the only superpower, and it's likely to remain that way for two or three decades. China's not going to replace the U.S. on this military board. Middle board of this three-dimensional chess game: economic power among states. Power is multi-polar. There are balancers - the U.S., Europe, China, Japan can balance each other. The bottom board of this three-dimensional, the board of transnational relations, things that cross borders outside the control of governments, things like climate change, drug trade, financial flows, pandemics, all these things that cross borders outside the control of governments, there nobody's in charge. It makes no sense to call this unipolar or multi-polar. Power is chaotically distributed. And the only way you can solve these problems - and this is where many greatest challenges are coming in this century - is through cooperation, through working together, which means that soft power becomes more important, that ability to organize networks to deal with these kinds of problems and to be able to get cooperation.

Another way of putting it is that as we think of power in the 21st century, we want to get away from the idea that power's always zero sum - my gain is your loss and vice versa. Power can also be positive sum, where your gain can be my gain. If China develops greater energy security and greater capacity to deal with its problems of carbon emissions, that's good for us as well as good for China as well as good for everybody else. So empowering China to deal with its own problems of carbon is good for everybody, and it's not a zero sum, I win, you lose. It's one in which we can all gain. So as we think about power in this century, we want to get away from this view that it's all I win, you lose. Now I don't mean to be Pollyannaish about this. Wars persist. Power persists. Military power is important. Keeping balances is important. All this still persists. Hard power is there, and it will remain. But unless you learn how to mix hard power with soft power into strategies that called smart power, you're not going to deal with the new kinds of problems that we're facing.

So the key question that we need to think about as we look at this is how do we work together to produce global public goods, things from which all of us can benefit? How do we define our national interests so that it's not just zero sum, but positive sum. In that sense, if we define our interests, for example, for the United States the way Britain defined its interests in the 19th century, keeping an open trading system, keeping a monetary stability, keeping freedom of the seas, those were good for Britain, they were good for others as well. And in the 21st century, you have to do an analog to that. How do we produce global public goods, which are good for us, but good for everyone at the same time? And that's going to be the good news dimension of what we need to think about as we think of power in the 21st century.

There are ways to define our interests in which, while protecting ourselves with hard power, we can organize with others in networks to produce, not only public goods, but ways that will enhance our soft power. And if we're going to deal with these two great power shifts described, the power shift represented by transition among states, the power shift represented by diffusion of power away from all states, we're going to have to develop a new narrative of power in which we combine hard and soft power into strategies of smart power. We can do that.

The "official dogma."

The official dogma of all western industrial societies: if we are interested in maximizing the welfare of our citizens, the way to do that is to maximize individual freedom. The reason for this is both that freedom is in and of itself good, valuable, worthwhile, essential to being human. And because if people have freedom, then each of us can act on our own to do the things that will maximize our welfare, and no one has to decide on our behalf. The way to maximize freedom is to maximize choice.

The more choice people have, the more freedom they have, and the more freedom they have, the more welfare they have. This is so deeply embedded in the water supply that it wouldn't occur to anyone to question it. And it's also deeply embedded in our lives.

In some domains, the world of communications there was a time, when you could get any kind of telephone service you wanted, as long as it came from Ma Bell. You rented your phone. You didn't buy it. One consequence of that, by the way, is that the phone never broke. And those days are gone. We now have an almost unlimited variety of phones, especially in the world of cell phones. These are cell phones of the future. You've got to admit that's a lot of choice.

So, in other aspects of life that are much more significant than buying things, the same explosion of choice is true. Health care, it is no longer the case in the United States that you go to the doctor, and the doctor tells you what to do. Instead, you go to the doctor, and the doctor tells you, "Well, we could do A, or we could do B. A has these benefits, and these risks. B has these benefits, and these risks. What do you want to do?" And you say, "Doc, what should I do?" And the doc says, "A has these benefits and risks, and B has these benefits and risks. What do you want to do?" And you say, "If you were me, Doc, what would you do?" And the doc says, "But I'm not you." And the result is -- we call it "patient autonomy," which makes it sound like a good thing, but what it really is a shifting of the burden and the responsibility for decision-making from somebody who knows something -- namely, the doctor -- to somebody who knows nothing and is almost certainly sick and thus not in the best shape to be making decisions -- namely, the patient.

There's enormous marketing of prescription drugs to people like you and me, which, if you think about it, makes no sense at all, since we can't buy them. Why do they market to us if we can't buy them? The answer is that they expect us to call our doctors the next morning and ask for our prescriptions to be changed. Something as dramatic as our identity has now become a matter of choice. We don't inherit an identity; we get to invent it. And we get to re-invent ourselves as often as we like. And that means that everyday, when you wake up in the morning, you have to decide what kind of person you want to be. With respect to marriage and family, there was a time when the default assumption that almost everyone had is that you got married as soon as you could, and then you started having kids as soon as you could. The only real choice was who, not when, and not what you did after.

Nowadays, everything is very much up for grabs. "Should I get married or not? Should I get married now? Should I get married later? Should I have kids first, or a career first?" All of these are consuming questions. These are important questions to answer. Work -- we are blessed, with the technology that enables us to work every minute of every day from any place on the planet.

This incredible freedom of choice we have with respect to work is that we have to make a decision, again and again and again, about whether we should or shouldn't be working. We can go to watch our kid play soccer, and we have our cell phone on one hip and our

Blackberry on our other hip, and our laptop, presumably, on our laps. And even if they're all shut off, every minute that we're watching our kid mutilate a soccer game, we are also asking ourselves, "Should I answer this cell phone call? Should I respond to this email? Should I draft this letter?" And even if the answer to the question is "no," it's certainly going to make the experience of your kid's soccer game very different than it would've been. So everywhere we look, big things and small things, material things and lifestyle things, life is a matter of choice.

We all know what's good about it, so I'm going to talk about what's bad about it. All of this choice has two effects, two negative effects on people. One effect, paradoxically, is that it produces paralysis, rather than liberation. So paralysis is a consequence of having too many choices.

You really want to get the decision right if it's for all eternity, right? The second effect is that even if we manage to overcome the paralysis and make a choice, we end up less satisfied with the result of the choice than we would be if we had fewer options to choose from. And there are several reasons for this. It's easy to imagine that you could have made a different choice that would have been better. And what happens is this imagined alternative induces you to regret the decision you made, and this regret subtracts from the satisfaction you get out of the decision you made, even if it was a good decision. The more options there are, the easier it is to regret anything at all that is disappointing about the option that you chose.

Second, what economists call "opportunity costs" or how much the way in which we value things depends on what we compare them to. Well, when there are lots of alternatives to consider, it is easy to imagine the attractive features of alternatives that you reject, that make you less satisfied with the alternative that you've chosen.

Opportunity costs subtract from the satisfaction we get out of what we choose, even when what we choose is terrific. And the more options there are to consider, the more attractive features of these options are going to be reflected by us as opportunity costs.

Escalation of expectations. Adding options to people's lives can't help but increase the expectations people have about how good those options will be. And what that's going to produce is less satisfaction with results, even when they're good results. Nobody in the world of marketing knows this. The reason that everything was better back when everything was worse is that when everything was worse, it was actually possible for people to have experiences that were a pleasant surprise. Nowadays, the world we live in -- we affluent, industrialized citizens, with perfection the expectation -- the best you can ever hope for is that stuff is as good as you expect it to be. You will never be pleasantly surprised because your expectations, my expectations, have gone through the roof. The secret to happiness is low expectations.

And so when people make decisions, and even though the results of the decisions are good, they feel disappointed about them; they blame themselves. Clinical depression has exploded in the industrial world in the last generation. A significant -- not the only, but a significant -- contributor to this explosion of depression, and also suicide, is that people have experiences that are disappointing because their standards are so high, and then when they have to explain these experiences to themselves, they think they're at fault. And so the net result is that we do better in general, objectively, and we feel worse. This is the official dogma, the one that we all take to be true, and it's all false. It is not true. There's no question that some choice is better than none, but it doesn't follow from that that more choice is better than some choice. There's

some magical amount. I'm pretty confident that we have long since passed the point where options improve our welfare.

What enables all of this choice in industrial societies is material affluence. There are lots of places in the world, where their problem is not that they have too much choice. Their problem is that they have too little. One of the problem of modern, affluent, Western societies is that these expensive, complicated choices, it's not simply that they don't help. They actually hurt. They actually make us worse off.

If some of what enables people in our societies to make all of the choices we make were shifted to societies in which people have too few options, not only would those people's lives be improved, but ours would be improved also. This is what economists call a "Pareto-improving move." Income redistribution will make everyone better off, not just poor people because of how all this excess choice plagues us.

Profit is theft.

Profit is theft, in our current economy. That is the profound conclusion that must be addressed. But surely no one will agree with this on its face. It sounds equally absurd. But corporate/CEO/shareholder profit would not exist if workers were paid the full value of their work. All workers contribute to the profit or losses of a business. But in traditional capitalist practice, only the owners or shareholders receive the profits while 99% of the workers - the working class minus management usually - receives a static wage. And this wage *must* be depressed lower than the full value of their work otherwise profit could not exist. To put it another way, in a fair system, profit would not only exist for the ownership class. All workers would receive higher pay or bonus pay when the company makes a profit. Profit in the usual sense would cease to exist because it would be shared among all the workers who contributed to that profit, rather than a few individuals who can make one up-front investment in the beginning and then never lift a finger while wealth is continually extracted from the workers every year, year after year after year...

So this is the ponzi scheme in play here. The house of cards. When wealth is continually extracted to pad the ever growing salaries and bonuses of an outrageously affluent ownership/investment class, the wealth gap eventually starts to create problems for the health of the ecosystem as a whole. The social costs of this robbery become externalized.

People struggle to pay their bills and buy food for their family, even working two or three jobs. They can't afford health insurance or the morgage on their house, so more people default and lose their homes. As you'd expect, government is asked to step in: to pay for healthcare, food stamps, social security and other basic necessities people can't afford because every month a part of their salary is stolen from them to give a little extra to the owners.

It is ironic to me that so many people decry the evils of having their paycheck "robbed" in the form of a government tax, when the original robbery that created the need for this tax goes unnoticed. (Of course, this robbery-by-force, i.e. tax by the government to pay for wars and the mass killing of civilians that I strongly opposed is equally detestable, but that is a subject for another time.)

If the free-market thinkers reading this have made it this far, hopefully now they can see that I recognize the free-market concept as the best part of what people tend to think of as capitalism. Yet capitalism has become a sort of propaganda today, as it boasts primarily its

greatest strength (the free market) as its only virtue, while downplaying or ignoring its 2 primary flaws: private ownership of the means of production and wage slavery,

But in an alternative successor system, called Economic Democracy - which I would place between capitalism and a Resource Based Economy - the free market would still exist and be enhanced. But the flaws of capitalism would be addressed. Instead of private ownership of the means of production (profit and control held exclusively by the ownership class) and wage labor, we would have:

Social control of investment. This would eliminate the 1% investment and ownership class (banks, CEOs, Wall Street traders etc), which act like a sort of parasite on the economy as a whole, by virtue of their ability to make money off of money - an entirely fraudulent practice in terms of generating true wealth for the earth and its people. This is a huge concept in itself but to sum it up: capital assets would be owned by society (the means of production, ie factories, equipment, land etc). In return for the use of these assets, a business would pay a capital tax, which would be used to invest further in the growth of new or existing businesses or projects. Decisions about how these investment funds are spent would be made locally by a new system of directly-democratic government. The people of a city would convene in large assemblies to decide how these investment funds should be spent. They would also negotiate a portion of these funds to be pooled with the funds of other regional cities for regional-scale investments, and on occasion would pool some of these funds into a national fund for national scale projects, which would be quite rare. By giving the power of investment to people rather than private individuals, investments would benefit society rather than this tiny minority of people. Read more about this idea here and here.

Worker Self-Management, aka workplace democracy. Workers would have a say in the business or corporation they work for. All workers would have an "ownership" share in the company and thus receive a share of its profits. These profits would likely not be equal but the disparity between the lowest paid and the highest paid would be significantly reduced from the current disparity in America (Compare 475: 1 in America versus 20:1 in Canada vs 4:1 roughly in a democratic economic system. The Mondragon Corporation provides an excellent case study of this model already in practice).

Workplace democracy, beyond enhancing economic justice, also would have profound effects on social justice. Corporations could not continue to act so brazenly if decisions were no longer made by a tiny minority concerned purely with money and other aberrant values. Could all the workers of Monsanto or British Petroleum allow their company to do what they do if they had a say over it? The rationale: "I just work here and have to do what I have to to survive" would no longer apply. Workers would have control over the decisions and policies of the corporation.

As mentioned before, the Marketplace would remain an integral element of the system, but it would actually function more properly and as intended, as the marketplace we have today is not even close to "free." This subject has been heavily propagandized, and many believe our country is becoming more socialist, but in truth we are more capitalist than we ever have been. Call this "corporate capitalism" if you like, either way, it is the system we have always had since the beginning of capitalism's history in the 1500s.

Capitalism, in practice, has always been "corporate socialism," where corporations exact their influence on government to create more self-benefiting hand-outs, tax-breaks, or virtual monopolies by influencing laws and regulations. People often blame the government for

creating an unfair market when it is the corporations themselves which have influenced all the laws and regulations in place to benefit and reduce competition for themselves. The Koch brothers can sing the gospel of the free market and deregulation all day, but in truth this is just propaganda speak, or code for, "we want more socialist benefits for our company and ourselves, as the richest paying tax-payers, so tax the poorest the most and strip social services so you can give more of that pie to us."

In a true market-place, laws and regulations would not be designed almost exclusively to benefit corporations and the 1%. For example, pollution regulations would actually tax polluters and revoke corporate charters if a corporation abused the land, air or water that it has access to. These elements should be considered the common heritage of the world, and should be used to benefit the world as a whole, rather than be seen as the property of a few individuals to benefit only those individuals to the detriment of everyone else. As it stands now, most environmental "regulations" only legalize a certain level of pollution and protect corporations from lawsuits and other liabilities.

In a true free and fair market-place, General Electric would not pay zero in taxes (and receive a subsidy!), nor would the biggest oil companies receive huge tax breaks. Free-market rhetoric has been used as propaganda to hide the slight-of-hand robbery that has occurred.

Because of this, in America, people either believe they have a capitalist system that is becoming more socialist (evil!), or people believe that they have a system of corporate capitalism or crony capitalism, and better values and reforms are all we need to fix an overall good system. In reality, as said before, what we have is a system of corporate socialism that has always functioned in this way, and it is finally meeting its inevitable societal conclusion. And because this "state-guaranteed system of privilege" is always how capitalism has worked since its beginning, I simply like to call this "capitalism." Capitalism, but with my eyes wide open to what it actually is.

No matter what you want to call it though, the overlying capitalist mythology within our culture has convinced us that workers get what they deserve and owners get what they deserve. And so the root injustice of the system goes on unchallenged while small concessions are requested, such as a higher minimum wage, as suggested by this info-graphic. Or, people blame the government for interfering with the "purity" of the marketplace while never stopping to notice all this government interference primarily benefits a single class of people and the corporations they hold stock in. So instead we see people on the right voting for republicans who lower taxes for the rich and give subsidies to corporations, and people on the left pushing for a higher minimum wage and better government benefits, which is much like asking for prettier window-dressings to decorate the walls of our cell. So what's the difference between conservatives and liberals? One wants freedom and gets even more desolate cell conditions; the other wants better cell conditions without ever realizing they were never free.

Instead, we need to stop the robbery. We need to free ourselves from this wage slavery which robs our paychecks every month and keeps us in debt and forever on the rat wheel just to survive.

Profit should be shared among all workers, and all workers should have an ownership and a decision-making stake in the company they belong to. All workers should reap the full fruits of their labor, in other words, and have autonomy over their lives.

What we need... is Economic Democracy. And this is what we need to fight for.

Politics and religion

Politics and religion, which are the two primary factors -- not the sole, but overwhelmingly, the primary factors -- which are driving towards a war which looks extremely likely -- bordering on the inevitable at this point, whether one is in favor of that or not -- that politics and religion are, in fact, themselves better conceptualized as kinds of technology, and subject to kinds of questions that we regularly consider in the space of conceptual design.

Politics, and let's focus on the political system in particular question here, which is the system of democracy. Democracy, as a type of politics, is a technology for the control and deployment of power. You can deploy power in a wide range of ways. The famous ones -- despotism is a good one; anarchy is a way to not deploy the power in any organized way, to do it in a radically diffused fashion; and democracy is a set of technologies, which have the effect of, in principle, diffusing the power source to a large number of people and then re-concentrating it in a smaller group of people who govern, and who themselves are, in principle, authorized to govern by virtue of what the broader public has done.

Now, consider religion, in this case Islam, which is the religion that, in some direct sense, can be said to be precipitating what we're about to enter. Put it in the following equation: no 9/11, no war. At the beginning of the Bush administration, he made it very clear that he was not interested in intervening broadly in the world. In fact, the trend was for disengagement with the rest of the world. That's why we heard about the backing away from the Kyoto protocol, for example. After 9/11, the tables were turned. And the president decided, with his advisors, to undertake some kind of an active intervention in the world around us. That began with Afghanistan, and when Afghanistan went extremely smoothly and quickly, a decision was made through the technology of democracy -- again, notice, not a perfect technology -- but through the technology of democracy that this administration was going to push in the direction of another war -- this time, a war in Iraq. So… no 9/11, no war.

Predictable irrationality and irrational behavior

One of this irrational behavior is cheating. The tendency for cheating of peoples tells a lot about us as species. It tells us something, even about the economic crisis we're in.

In one experiment conducted at MIT University a sheet of paper with 20 simple math problems that everybody could solve, was given to the peoples but with not enough time to solve them all. When the five minutes were over, they were told, "Pass sheets of paper, and we'll pay you a dollar per question." People did this. They pay four dollars for their task -- on average people would solve four problems. In the second stage of the experiment after the task and when the five minutes were over, they ask, "Please shred the piece of paper. Put the little pieces in your pocket or in your backpack, and tell us how many questions you got correctly." People now solved seven questions on average. Now, it wasn't as if there were a few bad apples -- a few people cheated a lot. Instead, what we saw is a lot of people who cheat a little bit. This situation happened at Enron for example. A collective cheating system was in place there, everybody knew what happen, but nobody talked the truth. Everybody cheated a little bit. Could this be a social behavior?

Now, in economic theory, cheating is a very simple cost-benefit analysis. You say, what's the probability of being caught? How much do I stand to gain from cheating? And how much punishment would I get if I get caught? And you weigh these options out, you do the simple cost-benefit analysis, and you decide whether it's worthwhile to commit the crime or not.

But the interesting fact is that the cheating does not necessarily depends on the amount of gain, because from a certain point the peoples stop cheating. This point it's different from person to person.

So, what is going on? What is happening is that there are two forces. At one hand, we all want to look at ourselves in the mirror and feel good about ourselves, so we don't want to cheat. On the other hand, we can cheat a little bit, and still feel good about ourselves. So, maybe what is happening is that there's a level of cheating we can't go over, but we can still benefit from cheating at a low degree, as long as it doesn't change our impressions about ourselves. This is called the personal fudge factor.

This personal fudge factor can be influenced to decrease or to increase by education, by style of life, etc. For example the religious people tend to cheat less. Think about the following intuition. How bad would you feel about taking a pencil from work home, compared to how bad would you feel about taking 10 cents from a petty cash box? These things feel very differently. People see each other behaving. In fact, every day when we open the news we see examples of people cheating. What does this cause us?

If somebody from our in-group cheats and we see them cheating, we feel it's more appropriate, as a group, to behave this way. But if it's somebody from another group, these terrible people, somebody we don't want to associate ourselves with, and all of a sudden people's awareness of honesty goes up and people cheat even less.

So, a lot of people can cheat. They cheat just by a little bit. When we remind people about their morality, they cheat less. When we get bigger distance from cheating, from the object of money, for example, people cheat more. And when we see cheating around us, particularly if it's a part of our in-group, cheating goes up. Now, if we think about this in terms of the stock market, think about what happens. What happens in a situation when you create something where you pay people a lot of money to see reality in a slightly distorted way? Would they not be able to see it this way? Of course they would. What happens when you do other things, like you remove things from money? You call them stock, or stock options, derivatives, mortgage-backed securities. Could it be that with those more distant things, it's not a token for one second, it's something that is many steps removed from money for a much longer time -- could it be that people will cheat even more? And what happens to the social environment when people see other people behave around them? All this forces worked in a very bad way in the stock market.

Behavioral economics. We have many intuitions in our life, and the point is that many of these intuitions are wrong. The question is, are we going to test those intuitions? We can think about how we're going to test this intuition in our private life, in our business life, and most particularly when it goes to policy, when we think about things like No Child Left Behind, when you create new stock markets, when you create other policies, taxation, health care and so on.

We have very strong intuitions about all kinds of things, our own ability, how the economy works, how we should pay school teachers. But unless we start testing those intuitions, we're not going to do better.

Corruption

We can express corruption, as two different things. One is the large global economy, the large globalized economy, and the other one is the small, and very limited, capacity of our traditional governments and their international institutions to govern, to shape, this economy. Because there is this asymmetry, which creates, basically, failing governance. Failing governance in many areas: in the area of corruption and the area of destruction of the environment, in the area of exploitation of women and children, in the area of climate change, in all the areas in which we really need a capacity to reintroduce the primacy of politics into the economy, which is operating in a worldwide arena. Corruption, and the fight against corruption, and the impact of corruption, is probably one of the most interesting ways to illustrate this failure of governance.

Now I come back to the idea of the new social enterprise that I'm exploring. Corruption, bribes, and lack of transparency. Bribes and corruption have both a demand and a supply side, with the supply side being mostly of greedy corporate unethical businesses and hapless common man. And the demand side being mostly politicians, bureaucrats and those who have discretionary power vested with them.

According to World Bank estimate, one trillion dollars is paid in bribes every year, worsening the condition of the already worse off. Yet, if you analyze the common man, he or she does not wake up every day and say, "Hmm, let me see who I can pay a bribe to today." or, "Let me see who I can corrupt today." Often it is the constraining or the back-to-the-wall situation that the hapless common man finds himself or herself in that leads him to pay a bribe. In the modern day world, where time is premium and battle for subsistence is unimaginably tough, the hapless common man simply gives in and pays the bribe just to get on with life.

Now, let me ask you another question. Imagine you are being asked to pay a bribe in your day-to-day life to get something done. What do you do? Of course you can call the police. But what is the use if the police department is in itself steeped in corruption? Most definitely you don't want to pay the bribe. But you also don't have the time, resources, expertise or wherewithal to fight this. Unfortunately, many of us are supporters of capitalist policies and market forces.

Yet the market forces around the world have not yet thrown up a service where you can call in, pay a fee, and fight the demand for a bribe. Like a bribe buster service, or 1-800-Fight-Bribes, or www.stopbribes.org or www.preventcorruption.org. Such a service simply does not exist.

What if we made available on web, call-center and franchise physical offices, for a fee, to serve anyone confronted with a demand for a bribe? The target market is as tempting as it can get. It can be worth up to one trillion dollars, being paid in bribes every year. And it is an absolutely virgin market.

Let’s explore this idea further, to examine the potential of creating a for-profit, fee-based BPO kind of service to stop bribes and prevent corruption. The fight for justice against corruption is never easy. It never has been and it never will be. The battle against corruption exacts a toll on ourselves, our families, our friends, and even our kids. Yet I believe the price we pay is well worth holding on to our dignity and making the world a fairer place.

The government.

The instrument of government is the prime political problem confronting human communities. The problem of the instrument of government entails questions of the following kind. What form should the exercise of authority assume? How ought societies to organize themselves politically in the modern world?

All political systems in the world today are a product of the struggle for power between alternative instruments of government. This struggle may be peaceful or armed, as is evidenced among classes, sects, tribes, parties or individuals. The outcome is always the victory of a particular governing structure - be it that of an individual, group, party or class - and the defeat of the people is the defeat of genuine democracy.

Political struggle that results in the victory of a candidate with, for example, 51 per cent of the votes lead to a dictatorial governing body in the guise of a false democracy, since 49 per cent of the electorate is ruled by an instrument of government they did not vote for, but which has been imposed upon them. Such is dictatorship. Besides, this political conflict may produce a governing body that represents only a minority. For when votes are distributed among several candidates, though one polls more than any other, the sum of the votes received by those who received fewer votes might well constitute an overwhelming majority. However, the candidate with fewer votes wins and his success is regarded as legitimate and democratic! In actual fact, dictatorship is established under the cover of false democracy. This is the reality of the political systems prevailing in the world today. They are dictatorial systems and it is evident that they falsify genuine democracy.

PARLIAMENTS

Parliaments are the backbone of that conventional democracy prevailing in the world today. Parliament is a misrepresentation of the people, and parliamentary systems are a false solution to the problem of democracy. A parliament is originally founded to represent the people, but this in itself is undemocratic as democracy means the authority of the people and not an authority acting on their behalf. The mere existence of a parliament means the absence of the people. True democracy exists only through the direct participation of the people, and not through the activity of their representatives.

Parliaments have been a legal barrier between the people and the exercise of authority, excluding the masses from meaningful politics and monopolizing sovereignty in their place. People are left with only a facade of democracy, manifested in long queues to cast their election ballots.

To lay bare the character of parliaments, one has to examine their origin. They are either elected from constituencies, a party, or a coalition of parties, or are appointed. But all of these procedures are undemocratic, for dividing the population into constituencies means that one member of parliament represents thousands, hundreds of thousands, or millions of people, depending on the size of the population. It also means that a member keeps few popular organizational links with the electors since he, like other members, is considered a representative of the whole people. This is what the prevailing traditional democracy requires. The masses are completely isolated from the representative and he, in turn, is totally removed from them. Immediately after winning the electors' votes the representative takes over the people's sovereignty and acts on their behalf. The prevailing traditional democracy endows the member of parliament with a sacredness and immunity which are denied to the rest of the people. Parliaments, therefore, have become a means of plundering and usurping the authority of the people. It has thus become the right of the people to struggle, through popular

revolution, to destroy such instruments - the so-called parliamentary assemblies which usurp democracy and sovereignty, and which stifle the will of the people. The masses have the right to proclaim reverberantly the new principle: no representation in lieu of the people.

If parliament is formed from one party as a result of its winning an election, it becomes a parliament of the winning party and not of the people. It represents the party and not the people, and the executive power of the parliament becomes that of the victorious party and not of the people. The same is true of the parliament of proportional representation in which each party holds a number of seats proportional to their success in the popular vote. The members of the parliament represent their respective parties and not the people, and the power established by such a coalition is the power of the combined parties and not that of the people.

Under such systems, the people are the victims whose votes are vied for by exploitative competing factions who dupe the people into political circuses that are outwardly noisy and frantic, but inwardly powerless and irrelevant. Alternatively, the people are seduced into standing in long, apathetic, silent queues to cast their ballots in the same way that they throw waste paper into dustbins.

This is the traditional democracy prevalent in the whole world, whether it is represented by a one-party, two-party, multiparty or non-party system. Thus it is clear that representation is a fraud.

Moreover, since the system of elected parliaments is based on propaganda to win votes, it is a demagogic system in the real sense of the word. Votes can be bought and falsified. Poor people are unable to compete in the election campaigns, and the result is that only the rich get elected. Assemblies constituted by appointment or hereditary succession do not fall under any form of democracy.

Philosophers, thinkers, and writers advocated the theory of representative parliaments at a time when peoples were unconsciously herded like sheep by kings, sultans and conquerors. The ultimate aspiration of the people of those times was to have someone to represent them before such rulers. When even this aspiration was rejected, people waged bitter and protracted struggle to attain this goal.

After the successful establishment of the age of the republics and the beginning of the era of the masses, it is unthinkable that democracy should mean the electing of only a few representatives to act on behalf of great masses. This is an obsolete structure. Authority must be in the hands of all of the people.

The most tyrannical dictatorships the world has known have existed under the aegis of parliaments.

THE PARTY

The party is a contemporary form of dictatorship. It is the modern instrument of dictatorial government. The party is the rule of a part over the whole. As a party is not an individual, it creates a superficial democracy by establishing assemblies, committees, and propaganda through its members. The party is not a democratic instrument because it is composed only of those people who have common interests, a common perception or a shared culture; or those who belong to the same region or share the same belief. They form a party to achieve their ends, impose their will, or extend the dominion of their beliefs, values, and interests to the

society as a whole. A party's aim is to achieve power under the pretext of carrying out its program. Democratically, none of these parties should govern a whole people who constitute a diversity of interests, ideas, temperaments, regions and beliefs. The party is a dictatorial instrument of government that enables those with common outlooks or interests to rule the people as a whole. Within the community, the party represents a minority.

The purpose of forming a party is to create an instrument to rule the people, i.e., to rule over non-members of the party. The party is, fundamentally, based on an arbitrary authoritarian concept - the domination of the members of the party over the rest of the people. The party presupposes that its accession to power is the way to attain its ends, and assumes that its objectives are also those of the people. This is the theory justifying party dictatorship, and is the basis of any dictatorship. No matter how many parties exist, the theory remains valid.

The existence of many parties intensifies the struggle for power, and this results in the neglect of any achievements for the people and of any socially beneficial plans. Such actions are presented as a justification to undermine the position of the ruling party so that an opposing party can replace it. The parties very seldom resort to arms in their struggle but, rather, denounce and denigrate the actions of each other. This is a battle which is inevitably waged at the expense of the higher, vital interests of the society. Some, if not all, of those higher interests will fall prey to the struggle for power between instruments of government, for the destruction of those interests supports the opposition in their argument against the ruling party or parties. In order to rule, the opposition party has to defeat the existing instrument of government.

To do so, the opposition must minimize the government's achievements and cast doubt on its plans, even though those plans may be beneficial to the society. Consequently, the interests and programs of the society become the victims of the parties' struggle for power. Such struggle is, therefore, politically, socially, and economically destructive to the society, despite the fact that it creates political activity.

Thus, the struggle results in the victory of another instrument of government; the fall of one party, and the rise of another. It is, in fact, a defeat for the people, i.e., a defeat for democracy. Furthermore, parties can be bribed and corrupted either from inside or outside.

Originally, the party is formed ostensibly to represent the people. Subsequently, the party leadership becomes representative of the membership, and the leader represents the party elite. It becomes clear that this partisan game is a deceitful farce based on a false form of democracy. It has a selfish authoritarian character based on maneuvers, intrigues and political games. This confirms the fact that the party system is a modern instrument of dictatorship. The party system is an outright, unconvincing dictatorship, one which the world has not yet surpassed. It is, in fact, the dictatorship of the modern age.

The parliament of the winning party is indeed a parliament of the party, for the executive power formed by this parliament is the power of the party over the people. Party power, which is supposedly for the good of the whole people, is actually the arch-enemy of a fraction of the people, namely, the opposition party or parties and their supporters. The opposition is, therefore, not a popular check on the ruling party but, rather, is itself opportunistically seeking to replace the ruling party. According to modern democracy, the legitimate check on the ruling party is the parliament, the majority of whose members are from that ruling party. That is to say, control is in the hands of the ruling party, and power is in the hands of the controlling party. Thus the deception, falseness and invalidity of the political theories

dominant in the world today become obvious. From these emerge contemporary conventional democracy.

"The party represents a segment of the people, but the sovereignty of the people is indivisible."

"The party allegedly governs on behalf of the people, but in reality the true principle of democracy is based upon the notion that there can be no representation in lieu of the people."

The party system is the modern equivalent of the tribal or sectarian system. A society governed by one party is similar to one which is governed by one tribe or one sect. The party, as shown, represents the perception of a certain group of people, or the interests of one group in society, or one belief, or one region. Such a party is a minority compared with the whole people, just as the tribe and the sect are. The minority has narrow, common sectarian interests and beliefs, from which a common outlook is formed. Only the blood-relationship distinguishes a tribe from a party, and, indeed, a tribe might also be the basis for the foundation of a party. There is no difference between party struggle and tribal or sectarian struggles for power. Just as tribal and sectarian rule is politically unacceptable and inappropriate, likewise the rule under a party system. Both follow the same path and lead to the same end. The negative and destructive effects of the tribal or sectarian struggle on society is identical to the negative and destructive effects of the party struggle.

CLASS

The political class system is the same as a party, tribal, or sectarian system since a class dominates society in the same way that a party, tribe or sect would. Classes, like parties, sects or tribes, are groups of people within society who share common interests. Common interests arise from the existence of a group of people bound together by blood-relationship, belief, culture, locality or standard of living. Classes, parties, sects and tribes emerge because blood-relationship, social rank, economic interest, standard of living, belief, culture and locality create a common outlook to achieve a common end. Thus, social structures, in the form of classes, parties, tribes or sects, emerge. These eventually develop into political entities directed toward the realization of the goals of that group. In all cases, the people are neither the class, the party, the tribe, nor the sect, for these are no more than a segment of the people and constitute a minority. If a class, a party, a tribe, or a sect dominates a society, then the dominant system becomes a dictatorship. However, a class or a tribal coalition is preferable to a party coalition since societies originally consisted of tribal communities. One seldom finds a group of people who do not belong to a tribe, and all people belong to a specific class. But no party or parties embrace all of the people, and therefore the party or party coalition represents a minority compared to the masses outside their membership. Under genuine democracy, there can be no justification for any one class to subdue other classes for its interests.

Similarly, no party, tribe or sect can crush others for their own interests. To allow such actions abandons the logic of democracy and justifies resort to the use of force. Such policies of suppression are dictatorial because they are not in the interest of the whole society, which consists of more than one class, tribe or sect, or the members of one party. There is no justification for such actions, though the dictatorial argument is that society actually consists of numerous segments, one of which must undertake the liquidation of others in order to remain solely in power. This exercise is not, accordingly, in the interests of the whole society but, rather, in the interests of a specific class, tribe, sect, party, or those who claim to speak for the society. Such an act is basically aimed at the member of the society who does not

belong to the party, class, tribe or sect which carries out the liquidation. A society torn apart by party feud is similar to one which is torn apart by tribal or sectarian conflicts. A party that is formed in the name of a class inevitably becomes a substitute for that class and continues in the process of spontaneous transformation until it becomes hostile to the class that it replaces.

Any class which inherits a society also inherits its characteristics. If the working class, for example, subdues all other classes of a particular society, it then becomes its only heir and forms its material and social base. The heir acquires the traits of those from whom it inherits, though this may not be evident all at once. With the passage of time, characteristics of the other eliminated classes will emerge within the ranks of the working class itself. The members of the new society will assume the attitudes and perspectives appropriate to their newly evolved characteristics. Thus, the working class will develop a separate society possessing all of the contradictions of the old society. In the first stage, the material standard and importance of the members become unequal. Thereafter, groups emerge which automatically become classes that are the same as the classes that were eliminated. Thus, the struggle for domination of the society begins again. Each group of people, each faction, and each new class will all vie to become the instrument of government.

Being social in nature, the material base of any society is changeable. The instrument of government of this material base may be sustained for some time, but it will eventual become obsolete as new material and social standards evolve to form a new material base. Any society which undergoes a class conflict may at one time have been a one-class society but, through evolution, inevitably becomes a multi-class society.

The class that expropriates and acquires the possession of others to maintain power for itself will soon find that, through evolution, it will be itself subject to change as though it were the society as a whole.

In summary, all attempts at unifying the material base of a society in order to solve the problem of government, or at putting an end to the struggle in favour of a party, class, sect or tribe have failed. All endeavours aimed at appeasing the masses through the election of representatives or through parliaments have equally failed. To continue such practices would be a waste of time and a mockery of the people.

PLEBISCITES

Plebiscites are a fraud against democracy. Those who vote "yes" or "no" do not, in fact, express their free will but, rather, are silenced by the modern conception of democracy as they are not allowed to say more than "yes" or "no". Such a system is oppressive and tyrannical. Those who vote "no" should express their reasons and why they did not say "yes", and those who say "yes" should verify such agreement and why they did not vote "no". Both should state their wishes and be able to justify their "yes" or "no" vote.

What then, is the path to be taken by humanity in order to conclusively rid itself of the elements of dictatorship and tyranny? The intricate problem in the case of democracy is reflected in the nature of the instrument of government, which is demonstrated by conflicts of classes, parties and individuals. The elections and plebiscites were invented to cover the failure of these unsuccessful experiments to solve this problem. The solution lies in finding an instrument of government other than those which are subject to conflict and which represent only one faction of society; that is to say, an instrument of government which is not a party class, sect or a tribe, but an instrument of government which is the people as a whole. In other

words, we seek an instrument of government which neither represents the people nor speaks in their name.

There can be no representation in lieu of the people and representation is fraud. If such an instrument can be found, then the problem is solved and true popular democracy is realized. Thus, humankind would have terminated the eras of tyranny and dictatorships, and replaced them with the authority of the people.

How to mobilize different forms of capital for the project of state building.

To put the assumptions very clearly: capitalism, after 150 years, was acceptable, and so has democracy. But this is getting to a close now and we desperately need to move forward to a new type of democracy, a participatory democracy. If we looked in the world of 1945 and looked at the map of capitalist economies and democratic polities, they were the rare exception, not the norm. The question now, however, is both about which form of capitalism and which type of democratic participation. But we must acknowledge that this moment has brought about a rare consensus of assumptions. And that provides the ground for a type of action, because consensus of each moment allows us to act. And it is necessary, no matter how fragile or how provisional our consensus, to be able to move forward.

But the majority of the world neither benefits from capitalism nor from democratic systems. Most of the globe experiences the state as repressive, as an organization that is concerned about denial of rights, about denial of justice, rather than provision of it. And in terms of experience of capitalism, there are two aspects that the rest of the globe experiences. First, extractive industry. Blood diamonds, smuggled emeralds, timber, which is cut right from under the poorest. Second is technical assistance. And technical assistance might shock you, but it's the worst form of -- today -- of the ugly face of the developed world to the developing countries. Tens of billions of dollars are supposedly spent on building capacity with people who are paid up to 1,500 dollars a day, who are incapable of thinking creatively, or organically.

We live in one world. But that's easily said. But we are not dealing with the implications of the one world that we are living in. And that is that if we want to have one world, this one world cannot be based on huge pockets of exclusion, and then inclusion for some. We must now finally come to think about the premises of a truly global world, in relationship to the regime of rights and responsibilities and accountabilities that are truly global in scope. Otherwise we will be missing this open moment in history, where we have a consensus on both the form of politics and the form of economics.

We have three critical terms: economy, civil society and the state. Economics taught in most of the elite universities are practically useless. Textbook economics does not work. The poverty of our knowledge must become the first basis of moving forward, and not imposition of the framework that works on the basis of mathematical modeling. We must find new functions, functions like legitimate monopoly of means of violence, administrative control, management of public finances, investment in human capital, provision of citizenship rights, provision of infrastructure, management of the tangible and intangible assets of the state through regulation, creation of the market, international agreements, including public borrowing, and then, most importantly, rule of law.

We also have to rethink the notion of capital. The least important form of capital, is financial capital -- money. Money is not capital in most of the developing countries. It's just cash.

Because it lacks the institutional, organizational, managerial forms to turn it into capital. And what is required is a combination of physical capital, institutional capital, human capital -- and security, of course, is critical, but so is information.

It takes 16 years to produce somebody with a B.S. degree. It takes 20 years to produce somebody with a Ph.D. The first challenge is to rethink, fundamentally, the issue of the time. Do we need to repeat the modalities that we have inherited? Our educational systems are inherited from the 19th century. The absolute majority of the world's population is below 20, and they are growing larger and faster. They need different ways of being approached, different ways of being enfranchised, different ways of being skilled. And that's the first thing.

Second is, you're problem solvers, but you're not engaging your global responsibility. You've stayed away from the problems of corruption. You only want clean environments in which to function. But if you don't think through the problems of corruption, who will? You stay away from design for development. You're great designers, but your designs are selfish. It's for your own immediate use. The world in which I operate operates with designs regarding roads, or dams, or provision of electricity that have not been revisited in 60 years. This is not right. It requires thinking. Imagination and creativity will become the most important capital of the next decades as it's in the intersection of ideas that new developments -- true breakthroughs -- occur. Today the world of globalization is on speed. Time has been compressed. And space does not exist for most people.

Trade is the key, not aid. The aid system does not have the knowledge, the vision, the ability.

A dollar of private investment is equal at least to 20 dollars of aid, in terms of the dynamic that it generates. Second is that one dollar of aid could be 10 cents; it could be 20 cents; or it could be four dollars. It depends on what forms it comes, what degrees of conditionalities are attached to it. The aid system, at first, was designed to benefit entrepreneurs of the developed countries, not to generate growth in the poor countries.

A borderless world?

Contemporary political map shows that we have over 200 countries in the world today. That's probably more than at any time in centuries.

But let's talk about the 90 percent of the world population that will never leave the place in which they were born. For them, nations, countries, boundaries, borders still matter a great deal, and often violently. Here is a fundamental problem we have not solved: our basic political geography. How do we distribute ourselves around the world?

Now this is important, because border conflicts justify so much of the world's military-industrial complex. Border conflicts can derail so much of the progress that we hope to achieve here. We need a deeper understanding of how people, money, power, religion, culture, technology interact to change the map of the world and we can try to anticipate those changes, and shape them in a more constructive direction.

In 1945 there were just 100 countries in the world. After World War II, Europe was devastated, but still held large overseas colonies: French West Africa, British East Africa, South Asia, and so forth. Then over the late '40s, '50s, '60s, '70s and '80s, waves of decolonization took place. Over 50 new countries were born. Africa has been fragmented;

India, Pakistan, Bangladesh, South East Asian nations created. Then came the end of the Cold War and the disintegration of the Soviet Union. We had the creation of new states in Eastern Europe, the former Yugoslav republics and the Balkans, and the nation-towns of central Asia.

Today we have 200 countries in the world. The entire planet is covered by sovereign, independent nation-states. Does that mean that someone's gain has to be someone else's loss? Russia is still the largest country in the world and China is the most populous. And they share a lengthy land border. But Russia's 150 million people are concentrated in its western provinces and areas that are close to Europe. And only 30 million people are in its eastern areas. In fact, the World Bank predicts that Russia's population is declining towards about 120 million people. Stalin, Khrushchev and other Soviet leaders forced Russians out to the Far East to be in gulags, labor camps, nuclear cities, whatever the case was. But as oil prices rose, Russian governments have invested in infrastructure to unite the country, east and west. But nothing has more perversely impacted Russia's demographic distribution, because the people in the east, who never wanted to be there anyway, have gotten on those trains and roads and gone back to the west. As a result, in the Russian Far East today, which is twice the size of India, there are exactly six million Russians.

So let's get a sense of what is happening in this part of the world. We can start with Mongolia, or as some call it, Mine-golia. Why do they call it that? Because in Mine-golia, Chinese firms operate and own most of the mines -- copper, zinc, gold -- and they truck the resources south and east into mainland China. China isn't conquering Mongolia. It's buying it. Colonies were once conquered. Today countries are bought.

So let's apply this principle to Siberia, a cold, desolate, unlivable place – for the moment… in fact, with global warming and rising temperatures, all of a sudden you have vast wheat fields and agribusiness, and grain being produced in Siberia. But who is it going to feed? Well, just on the other side of the Amo River, in the Heilongjiang and Harbin provinces of China, you have over 100 million people. That's larger than the entire population of Russia. Every single year, for at least a decade or more, 60,000 of them have been voting with their feet, crossing, moving north and inhabiting this desolate terrain. They set up their own bazaars and medical clinics. They've taken over the timber industry and been shipping the lumber east, back into China. Again, like Mongolia, China isn't conquering Russia. It's just leasing it. That's what we can call globalization… in Chinese style.

Globalization opens up all kinds of ways for us to undermine and change the way we think about political geography. So, the history of East Asia in fact, people don't think about nations and borders. They think more in terms of empires and hierarchies, usually Chinese or Japanese.

Well it's China's turn again. So let's look at how China is re-establishing that hierarchy in the Far East. It starts with the global hubs. East Asia today has more of those global hubs than any other region in the world: Tokyo, Seoul, Beijing, Shanghai, Hong Kong, Singapore and Sidney. These are the filters and funnels of global capital. Trillions of dollars a year are being brought into the region, so much of it being invested into China.

Then there is trade. China has the stronger trade relationships with every country in the region. Specifically, it targets Japan, Korea and Australia, countries that are strong allies of the United States. Australia, for example, is heavily dependent on exporting iron ore and natural gas to China. For poorer countries, China reduces tariffs so that Laos and Cambodia can sell their goods more cheaply and become dependent on exporting to China as well.

People are now looking to China to lead the rebound, the economic rebound, not just in Asia, but potentially for the world. The Asian free trade zone, almost free trade zone, that's emerging now, has a greater trade volume than the trade across Pacific. So China is becoming the anchor of the economy in the region.

Another pillar of this strategy is diplomacy. China has signed military agreements with many countries in the region. It has become the hub of diplomatic institutions such as the East Asian Community. Some of these organizations don't even have the United States as a member. There is a treaty of nonaggression between countries, such that if there were a conflict between China and the United States, most countries vow to just sit it out, including American allies like Korea and Australia.

Another pillar of the strategy, like Russia, is demographic. China exports business people, nannies, students, teachers to teach Chinese around the region, to intermarry and to occupy ever greater commanding heights of the economies. Already ethnic Chinese people in Malaysia, Thailand and Indonesia are the real key factors and drivers in the economies there. Chinese pride is resurgent in the region as a result. Singapore, for example, used to ban Chinese language education. Now it encourages it.

If you add it all up what do you get? Well, if you remember before World War II, Japan had a vision for a greater Japanese co-prosperity sphere. What's emerging today is what you might call a greater Chinese co-prosperity sphere. So no matter what the lines on the map tell you in terms of nations and borders, what you really have emerging in the far east are national cultures, but in a much more fluid, imperial zone. All of this is happening without firing a shot.

That's most certainly not the case in the Middle East where countries are still very uncomfortable in the borders left behind by European colonialists. So what can we do to think about borders differently in this part of the world? What lines on the map should we focus on? What I want to present to you is what I call state building, day by day.

Let's start with Iraq. Six years after the U.S. invasion of Iraq, the country still exists more on a map than it does in reality. Oil used to be one of the forces holding Iraq together; now it is the most significant cause of the country's disintegration. The reason is Kurdistan. The Kurds for 3,000 years have been waging a struggle for independence, and now is their chance to finally have it. Kurdistan is an oil-rich region.

And today, if you go to Kurdistan, you'll see that Kurdish Peshmerga guerillas are squaring off against the Sunni Iraqi army. But what are they guarding? Is it really a border on the map? No. It's the pipelines. If the Kurds can control their pipelines, they can set the terms of their own statehood. Now should we be upset about this, about the potential disintegration of Iraq? No. Iraq will still be the second largest oil producer in the world, behind Saudi Arabia. And we'll have a chance to solve a 3,000 year old dispute. Remember Kurdistan is landlocked. It has no choice but to behave. In order to profit from its oil it has to export it through Turkey or Syria, and other countries, and Iraq itself. And therefore it has to have amicable relations with them.

Now lets look at a perennial conflict in the region. That is, of course, in Palestine. Palestine is something of a cartographic anomaly because it's two parts Palestinian, one part Israel. 30 years of rose garden diplomacy have not delivered us peace in this conflict. What might?

What might solve the problem is infrastructure. Today donors are spending billions of dollars on a commuter railroads and other infrastructure that link the West Bank and Gaza.

If Gaza can have a functioning port and be linked to the West Bank, you can have a viable Palestinian state, Palestinian economy. That is going to bring peace to this particular conflict. The lesson from Kurdistan and from Palestine is that independence alone, without infrastructure, is futile.

Now what might this entire region look like if in fact we focus on the map besides borders, when the insecurities might abate? The last time that was the case was actually a century ago, during the Ottoman Empire. The Hejaz Railway ran from Istanbul to Medina via Damascus. It even had an offshoot running to Haifa in what is today Israel, on the Mediterranean Sea. But today the Hejaz Railway lies in tatters, ruins. If we were to focus on reconstructing these curvy lines on the map, infrastructure, that cross the straight lines, the borders, I believe the Middle East would be a far more peaceful region.

Now let's look at another part of the world, the former Soviet Republics of Central Asia, the new nations. These countries' borders originate from Stalin's decrees. He purposely did not want these countries to make sense. He wanted ethnicities to mingle in ways that would allow him to divide and rule. Fortunately for them, most of their oil and gas resources were discovered after the Soviet Union collapsed.

There is a big difference in the way we used to talk about oil and the way we're talking about it now. Before it was, how do we control their oil? Now it's their oil for their own purposes. For a number of countries in this part of the world, having pipelines is the ticket to becoming part of the global economy and for having some meaning besides the borders that they are not loyal to themselves. Just take Azerbaijan. Azerbaijan was a forgotten corner of the Caucuses, but now with the Baku-Tbilisi-Ceyhan pipeline into Turkey, it has rebranded itself as the frontier of the west.

Then there is Turkmenistan, which most people think of as a frozen basket case. But now it's contributing gas across the Caspian Sea to provide for Europe, and even a potentially Turkmen- Afghan-Pakistan-India pipeline as well.

Then there is Kazakhstan, which didn't even have a name before. It was more considered South Siberia during the Soviet Union. Today most people recognize Kazakhstan as an emerging geopolitical player. Why? Because it has shrewdly designed pipelines to flow across the Caspian, north through Russia, and even east to China. More pipelines means more silk roads, instead of the Great Game. The Great Game connotes dominance of one over the other. Silk road connotes independence and mutual trust. The more pipelines we have, the more silk roads we'll have, and the less of a dominant Great Game competition we'll have in the 21st century.

Now let's look at the only part of the world that really has brought down its borders, and how that has enhanced its strength. And that is, of course, Europe. The European Union began as just the coal and steel community of six countries, and their main purpose was really to keep the rehabilitation of Germany to happen in a peaceful way. But then eventually it grew into 12 countries, and those are the 12 stars on the European flag. The E.U. also became a currency block, and is now the most powerful trade block in the entire world. On average, the E.U. has grown by one country per year since the end of the Cold War. In fact most of that happened

on just one day. In 2004, 15 new countries joined the E.U. and now you have what most people consider a zone of peace spanning 27 countries and 450 million people.

So what is next? What is the future of the European Union? Well in light blue, you see the zones or the regions that are at least two-thirds or more dependent on the European Union for trade and investment. What does that tell us? Trade and investment tell us that Europe is putting its money where its mouth is. Even if these regions aren't part of the E.U., they are becoming part of its sphere of influence. Just take the Balkans. Croatia, Serbia Bosnia, they're not members of the E.U. yet. But you can get on a German ICE train and make it almost to Albania. In Bosnia you use the Euro currency already, and that's the only currency they're probably ever going to have.

So, looking at other parts of Europe's periphery, such as North Africa. On average, every year or two, a new oil or gas pipeline opens up under the Mediterranean, connecting North Africa to Europe. That not only helps Europe diminish its reliance on Russia for energy, but if you travel to North Africa today, you'll hear more and more people saying that they don't really think of their region as the Middle East. So in other words, I believe that President Sarkozy of France was right when he talked about a Mediterranean union.

Now let's look at Turkey and the Caucasus. That corridor of Turkey and the Caucasus has become the conduit for 20 percent of Europe's energy supply. So does Turkey really have to be a member of the European Union? Not necessarily. It's already part of a Euro-Turkish superpower.

So what's next? Where are we going to see borders change and new countries born? Well, South Central Asia, South West Asia is a very good place to start. Eight years after the U.S. invaded Afghanistan there is still a tremendous amount of instability. Pakistan and Afghanistan are still so fragile that neither of them has dealt constructively with the problem of Pashtun nationalism.

Let's not neglect the insurgency just to the south, Balochistan. Two weeks ago, Balochi rebels attacked a Pakistani military garrison, and this was the flag that they raised over it. The post-colonial entropy that is happening around the world is accelerating, and we can expect more such changes to occur in the map as the states fragment.

Of course, we can't forget Africa. 53 countries, and by far the most number of suspiciously straight lines on the map. If we were to look at all of Africa we could most certainly acknowledge far more, tribal divisions and so forth. But let's just look at Sudan, the second-largest country in Africa. It has three ongoing civil wars, the genocide in Darfur, the civil war in the east of the country, and south Sudan. South Sudan is now an independent country after the referendum from 2011.

Now let's go up to the Arctic Circle. There is a great race on for energy resources under the Arctic seabed. Who will win? Canada? Russia? The United States? Actually Greenland. Several weeks ago Greenland's people voted themselves self-governance rights from Denmark. So Denmark is about to get a whole lot smaller.

What is the lesson from all of this? Geopolitics is a very unsentimental discipline. It's constantly morphing and changing the world, like climate change. And like our relationship

with the ecosystem we're always searching for equilibrium in how we divide ourselves across the planet. Now we fear changes on the map. We fear civil wars, death tolls, having to learn the names of new countries. But the current inertia of the existing borders that we have today is far worse and far more violent.

The question is how do we change those borders, and what lines do we focus on? It will be on the lines that cross borders, the infrastructure lines. Then we'll wind up with the world we want, a borderless one.

A broken legal system

It is interesting to see the relationship of formal structures and human behavior. If you build a wide road out to the outskirts of town, people will move there. Well, law is also a powerful driver of human behavior and we can begin to address the challenges of our society.

You might have noticed that law has grown progressively denser in your lives over the last decade or two. If you run a business, it's hard to do much of anything without calling your general counsel. Indeed, there is this phenomenon now where the general counsels are becoming the CEOs. You need a lawyer to run the company, because there's so much law. But it's not just business that's affected by this, it's actually pressed down into the daily activities of ordinary people.

Now, we've been taught to believe that law is the foundation of freedom. But somehow or another, in the last couple of decades, the land of the free has become a legal minefield. It's really changed our lives in ways that are sort of imperceptible; and yet, when you pull back, you see it all the time. It's changed the way we talk.

Now for 20 years, tort reformers have been sounding the alarm that lawsuits are out of control. And we read every once in while about these crazy lawsuits, like the guy in the District of Columbia who sued his dry cleaners for 54 million dollars because they lost his pair of pants. The case went on for two years.

But the reality is these crazy cases are relatively rare. They don't usually win. And the total of direct tort cost in US is about two percent, which is twice as much as in other countries. But the direct costs are really only the tip of the iceberg.

What's happened here, again, almost without our knowing, is our culture has changed. People no longer feel free to act on their best judgment. So, what do we do about it? We certainly don't want to give up the rights, when people do something wrong, to seek redress in the courts. We need regulation to make sure people don't pollute and such. We lack even a vocabulary to deal with this problem, and that's because we have the wrong frame of reference.

We've been trained to think that the way to look at every dispute, every issue, is a matter of kind of individual rights. And so we peer through a legal microscope, and look at everything. And yet, we've been trained to squint into this legal microscope, hoping that we can judge any dispute against the standard of a perfect society, where everyone will agree what's fair, and where accidents will be extinct, risk will be no more. Of course, this is Utopia; it's a formula for paralysis, not freedom. It's not the basis of the rule of law; it's not the basis of a free society.

Let’s look at our society from high above. Is it working? What does the macro-data show us? Well, the healthcare system has been transformed: a culture pervaded with defensiveness, universal distrust of the system of justice, universal practice of defensive medicine. It's very hard to measure because there are mixed motives. Doctors can make more on ordering tests sometimes, and also they no longer even know what's right or wrong. But reliable estimates range between 60 billion and 200 billion dollars per year. That's enough to provide care to all the people in America who don't have it.

The trial lawyers say, "Well, this legal fear makes doctors practice better medicine." Well that's been studied too, by the Institute of Medicine and others. Turns out that's not the case. The fear has chilled professional interaction so thousands of tragic errors occur because doctors are afraid to speak up: "Are you sure that's the right dosage?" Because they're not sure, and they don't want to take legal responsibility.

Let's go to schools. Well it turns out the schools are literally drowning in law. You could have a separate section of a law library around each of the following legal concepts: due process, special education, no child left behind, zero tolerance, work rules ... it goes on. Tens of thousands of discreet rules, 60 steps to suspend a student from school: It's a formula for paralysis. What's the effect of that? One is a decline in order.

Again, studies have shown it's directly attributable to the rise of due process. 43 percent of the high school teachers in America say that they spend at least half of their time maintaining order in the classroom. That means those students are getting half the learning they're supposed to, because if one child is disrupting the class no one can learn. And what happens when the teacher tries to assert order? They're threatened with a legal claim. We also surveyed that. Seventy-eight percent of the middle and high school teachers in America have been threatened by their students with violating their rights, with lawsuits by their students. They are threatening, their students. It's not that they usually sue; it's not that they would win, but it's an indication of the corrosion of authority.

And how has this system of law worked for government? It doesn't seem to be working very well does it? President Obama said, and I think we could all agree with this goal, "From the first railroads to the interstate highway system, our nation has always been the first to compete. There is no reason Europe or China should have the fastest trains." Well, actually there is a reason: Environmental review has evolved into a process of no pebble left unturned for any major project taking the better part of a decade, then followed by years of litigation by anybody who doesn't like the project.

Then, people are acting like idiots, all across the USA. Idiots. A couple of years ago, Broward County, Florida, banned running at recess. That means all the boys are going to be ADD. I mean it's just absolutely a formula for failure.

So, none of these people are doing what they think is right. And why not? They don't trust the law. Why don't they trust the law? Because it gives us the worst of both worlds: It's random -- anybody can sue for almost anything and take it to a jury, not even an effort at consistency -- and it's also too detailed. In the areas that are regulated, there are so many rules no human could possibly know it. Well how do you fix it? We could spend 10,000 lifetimes trying to prune this legal jungle. But the challenge here is not one of just amending the law, because the hurdle for success is trust.

People -- for law to be the platform for freedom, people have to trust it. Trust is an essential condition to a free society. Life is complicated enough without legal fear. But law is different than other kinds of uncertainties, because it carries with it the power of state. And so the state can come in. It actually changes the way people think. It's like having a little lawyer on your shoulders all day long, whispering in your ear, "Could that go wrong? Might that go wrong?" It drives people from the smart part of the brain -- that dark, deep well of the subconscious, where instincts and experience, and all the other factors of creativity and good judgment are -- it drives us to the thin veneer of conscious logic.

Pretty soon the doctor's saying, "Well, I doubt if that headache could be a tumor, but who would protect me if it were? So maybe I'll just order the MRI." Then you've wasted 200 billion dollars in unnecessary tests. If you make people self-conscious about their judgments, studies show you will make them make worse judgments. If you tell the pianist to think about how she's hitting the notes when she's playing the piece, she can't play the piece. Self-consciousness is the enemy of accomplishment. Edison stated it best. He said, "Hell, we ain't got no rules around here, we're trying to accomplish something."

So, how do you restore trust? Tweaking the law's clearly not good enough, and tort reform, which is a great idea, lowers your cost if you're a businessperson, but it's like a Band-Aid on this gaping wound of distrust. States with extensive tort reform still suffer all these pathologies. So, what's needed is not just to limit claims, but actually create a dry ground of freedom. It turns out that freedom actually has a formal structure. And it is this: Law sets boundaries, and on one side of those boundaries are all the things you can't do or must do -- you can't steal, you've got to pay your taxes -- but those same boundaries are supposed to define and protect a dry ground of freedom.

Isaiah Berlin put it this way: "Law sets frontiers, not artificially drawn, within which men shall be inviolable." We've forgotten that second part. Those dikes have burst. People wade through law all day long. So, what's needed now is to rebuild these boundaries. And it's especially important to rebuild them for lawsuits. Because what people can sue for establishes the boundaries for everybody else's freedom. If someone brings a lawsuit over, "A kid fell off the seesaw," it doesn't matter what happens in the lawsuit, all the seesaws will disappear. Because no one will want to take the risk of a lawsuit. And that's what's happened. There are no seesaws, jungle gyms, merry-go-rounds, climbing ropes, nothing that would interest a kid over the age of four, because there's no risk associated with it.

So, how do we rebuild it? Life is too complex for a software program. All these choices involve value judgments and social norms, not objective facts.

This is what we have, the philosophy we have to change to. And there are two essential elements of it: We have to simplify the law. We have to migrate from all this complexity towards general principles and goals. The constitution of US is only 16 pages long. Worked pretty well for 200 years.

Law has to be simple enough so that people can internalize it in their daily choices. If they can't internalize it, they won't trust it. And how do you make it simple? Because life is complex and here is the hardest and biggest change: We have to restore the authority to judges and officials to interpret and apply the law. We have to re-humanize the law. To make law simple so that you feel free, the people in charge have to be free to use their judgment to interpret and apply the law in accord with reasonable social norms. As you're going down, and walking down the sidewalk during the day, you have to think that if there is a dispute,

there's somebody in society who sees it as their job to affirmatively protect you if you're acting reasonably. That person doesn't exist today.

This is the hardest hurdle. It's actually not very hard. Ninety-eight percent of cases, this is a piece of cake. Maybe you've got a claim in small claims court for your lost pair of pants for $100, but not in a court of general jurisdiction for millions of dollars. Case dismissed without prejudice or refilling in small claims court. Takes five minutes. That's it, it's not that hard.

But it's a hard hurdle because we got into this legal quicksand because we woke up in the 1960s to all these really bad values: racism, gender discrimination, pollution -- they were bad values. And we wanted to create a legal system where no one could have bad values anymore. The problem is, we created a system where we eliminated the right to have good values. It doesn't mean that people in authority can do whatever they want. They're still bounded by legal goals and principles: The teacher is accountable to the principal, the judge is accountable to an appellate court, the president is accountable to voters. But the accountability's up the line judging the decision against the effect on everybody, not just on the disgruntled person. You can't run a society by the lowest common denominator.

So, what's needed is a basic shift in philosophy. We can pull the plug on a lot of this stuff if we shift our philosophy. We've been taught that authority is the enemy of freedom. It's not true. Authority, in fact, is essential to freedom. Law is a human institution; responsibility is a human institution. If teachers don't have authority to run the classroom, to maintain order, everybody's learning suffers. If the judge doesn't have the authority to toss out unreasonable claims, then all of us go through the day looking over our shoulders. If the environmental agency can't decide that the power lines are good for the environment, then there's no way to bring the power from the wind farms to the city. A free society requires red lights and green lights; otherwise it soon descends into gridlock. That's what's happened to America. Look around.

What the world needs now is to restore the authority to make common choices. It's the only way to get our freedom back, and it's the only way to release the energy and passion needed so that we can meet the challenges of our time.

A new pluralistic notion of democracy would be one that recognizes that there are many different interests, many different agendas, many different individuals, many different points of view. Each one is incomplete, because you’re embedded in a network of relationships. Any actor in a democracy is embedded in a network of relationships. And you understand somethings better than other things, and because of that there’s a continual jostling and give and take, which is politics. And politics is, in the ideal sense, the way in which we continually address our network of relations in order to achieve a better life and a better society.

We must to get out of this thing where the young people have all the ideas, and the old people have all the power and implement a true participatory democracy in which every voice must be hear, and every idea must be shared.

Chapter 3: The criminal ruling elite

In the history we have one speech which resonates today and for many, many decades to come. It is by far the most powerful speech held by an official, a president who had the courage to speak the truth to the people. John Fitzgerald Kennedy made this speech on April the 27th, 1961, before the American Newspaper Publishers Association at the Waldorf-Astoria Hotel in New York:

“The very word "secrecy" is repugnant in a free and open society; and we are as a people inherently and historically opposed to secret societies, to secret oaths and secret proceedings. We decided long ago that the dangers of excessive and unwarranted concealment of pertinent facts far outweighed the dangers which are cited to justify it. Even today, there is little value in opposing the threat of a closed society by imitating its arbitrary restrictions. Even today, there is little value in insuring the survival of our nation if our traditions do not survive with it. And there is very grave danger that an announced need for increased security will be seized upon those anxious to expand its meaning to the very limits of official censorship and concealment. That I do not intend to permit to the extent that it is in my control. And no official of my Administration, whether his rank is high or low, civilian or military, should interpret my words here tonight as an excuse to censor the news, to stifle dissent, to cover up our mistakes or to withhold from the press and the public the facts they deserve to know.

For we are opposed around the world by a monolithic and ruthless conspiracy that relies on covert means for expanding its sphere of influence--on infiltration instead of invasion, on subversion instead of elections, on intimidation instead of free choice, on guerrillas by night instead of armies by day. It is a system which has conscripted vast human and material resources into the building of a tightly knit, highly efficient machine that combines military, diplomatic, intelligence, economic, scientific and political operations. Its preparations are concealed, not published. Its mistakes are buried not headlined. Its dissenters are silenced, not praised. No expenditure is questioned, no rumor is printed, no secret is revealed.

No President should fear public scrutiny of his program. For from that scrutiny comes understanding; and from that understanding comes support or opposition. And both are necessary. I am not asking your newspapers to support the Administration, but I am asking your help in the tremendous task of informing and alerting the American people. For I have complete confidence in the response and dedication of our citizens whenever they are fully informed.

I not only could not stifle controversy among your readers-- I welcome it. This Administration intends to be candid about its errors; for as a wise man once said: "An error does not become a mistake until you refuse to correct it." We intend to accept full responsibility for our errors; and we expect you to point them out when we miss them.

Without debate, without criticism, no Administration and no country can succeed-- and no republic can survive. That is why the Athenian lawmaker Solon decreed it a crime for any citizen to shrink from controversy. And that is why our press was protected by the First Amendment-- the only business in America specifically protected by the Constitution-- not primarily to amuse and entertain, not to emphasize the trivial and sentimental, not to simply "give the public what it wants"--but to inform, to arouse, to reflect, to state our dangers and

our opportunities, to indicate our crises and our choices, to lead, mold educate and sometimes even anger public opinion.

This means greater coverage and analysis of international news for it is no longer far away and foreign but close at hand and local. It means greater attention to improved understanding of the news as well as improved transmission. And it means, finally, that government at all levels must meet its obligation to provide you with the fullest possible information outside the narrowest limits of national security...

And so it is to the printing press--to the recorder of mans deeds, the keeper of his conscience, the courier of his news-- that we look for strength and assistance, confident that with your help man will be what he was born to be: **FREE AND INDEPENDENT**."

And here is his Inaugural Address, on 20 January 1961:

"In the long history of the world, only a few generations have been granted the role of defending freedom in its hour of maximum danger. I do not shrink from this responsibility--I welcome it. I do not believe that any of us would exchange places with any other people or any other generation. The energy, the faith, the devotion which we bring to this endeavor will light our country and all who serve it--and the glow from that fire can truly light the world.

And so, my fellow Americans: ask not what your country can do for you--ask what you can do for your country.

My fellow citizens of the world: ask not what America will do for you, but what together we can do for the freedom of man.

Finally, whether you are citizens of America or citizens of the world ask of us here the same high standards of strength and sacrifice which we ask of you. With a good conscience our only sure reward, with history the final judge of our deeds, let us go forth to lead the land we love, asking His blessing and His help, but knowing that here on earth God's work must truly be our own."

What a great man he was! What a great country America once was, what a pathetic shadow it is today!

One can only imagine what a shock these words must have among the covert ruling elite, exposing them into such a direct manner. Never after J.F.K. they allowed that a true president to arrive at the White House. All the US presidents after him were merely puppets, up to this very day.

Their revenge was merciless, both J.F. Kennedy and his brother Robert Kennedy were murdered. You'll have to be extremely stupid to think that this was only an accident that some gunner with a few shots, all by himself manage to assassinate President Kennedy as the official story goes.

If you are still asking yourself if there truly are a criminal ruling elite, well then my fellow citizens of the world: ask yourselves not if the criminal elite exists, but what together we can do to expose them in plain sight.

In order to grasp the truth, you must use your free will and freedom of thought. Do not let your mind get trapped within the religious or false scientific paradigms. Religion and false

science are simply forms of control that were created by the ruling elite long before you were born. And thus, it is a shame that after being born on this planet, you were raised on either of those two lies.

Naturally, since you have been lied to about reality your entire life, any truthful revelations contradicting your false worldview may indeed appear to be far-fetched. But, to make things even worse, human beings are stubborn creatures who let their egos override everything else: Instead of learning about new information that does not fit within your current worldview, you would rather exercise your ego by letting others know what is and is not possible, merely based upon your personal knowledge and feeble understanding of what actually exists.

"The spirit of inquiry, the search for greater truth beyond religion and science, the profound seriousness of doing real thinking, philosophy and ontology – these are almost totally lacking in humanity. Humanity is therefore subhuman from lack of genuine intelligence. ... They automatically reject any emergent facts or realities that do not fit their brain dead cognitive pattern of belief and disbelief. They watch too much television" (Gabriel Chiron, "Truth is Greater Than Man").

"All truth passes through three stages. First, it is ridiculed. Second, it is violently opposed. Third, it is accepted as being self-evident." (Arthur Schopenhauer)

How Human Beings Deny the Truth

Human beings on Earth like to blow off the truth by claiming that it is simply nonsense, calling it, for example, "funny," "hilarious," or "entertaining." In addition, they automatically disregard the truth messenger as being a "standard-issue schizophrenic who is obviously out of touch with reality." People desperately try to paint truth messengers as being non-lucid, mentally unstable, illogical, and so self-absorbed that they can't see things for what they really are. This is a very convenient way to quickly discard the truth and go on with one's life.

Furthermore, when people come upon new information, they erroneously assume that they have some sort of intellectual high ground over it. They start with the assumption that their belief system is correct, and, for whatever reason, vehemently refuse to acknowledge the possibility that they may have actually been deceived all along by their belief system. And thus, when confronted with counter-evidence, they automatically reject it.

As a matter of fact, human beings are actually foolish enough to think that their conventional worldviews are the height of rationality. They neglect to factor the concept of intentional deception into their logical thought processes, and thus they fail to realize that the only reason why their worldviews seem so rational is because their worldviews are composed of a plethora of lies and distortions. So, in one of the greatest ironies ever, human beings think the lies that they are spoon fed are reality, and that the truth, on the other hand, is crazy, unrealistic, and bizarre.

It is truly amazing how people are able to adopt one of Earth's belief systems (whether it be a specific religion or atheism), walk through the proverbial door of enlightenment (or so they think), shut the door behind them, and then never look back. Worse yet, they are actually proud not to look back--proud of their own stubbornness.

Once human beings are exposed to the truth, their decision to ridicule it manifests so quickly, one could mistakenly think that human beings are actually robots that were programmed to do

so. Thus, if people really want to point the finger at someone who does not engage in serious critical thinking, they should go to the nearest mirror and point at themselves.

Knowledge is the key to unlocking our potential. It gives us the self-determination, responsibility, and power necessary to cast off the chains of covert oppression. Knowledge is therefore the greatest protector, for it also gives us foresight to impeccably handle the challenges of life and, most importantly, to sidestep the traps on the path to awakening. The more you know of higher truths and apply what you know, the more you begin operating under higher laws that transcend the limitations of the lower.

What the Truth is Not

The truth is the truth, and is not necessarily politically correct or socially acceptable. As a matter of fact, the truth is by no means politically correct or socially acceptable. The truth is greater than man, so it will not bow down to your social needs, personal needs, or insecurities.

The truth is not a function of human emotions, nor is it catered to the complex dynamics of human culture, interaction, or relationships. So, if the truth makes you feel "embarrassed" or "awkward," then that is your own problem.

As all truth messengers already know, human beings always stand in the way of one trying to spread the truth, via such tactics as peer pressure and ridicule. If one ever mentions the truth to a human being, the human being will quickly attempt to suck that person back into the mindless reality that is referred to, here on Earth, as the "real world." The truth is an enemy of humanity. So, if you are a slave to the human race, then you will forever keep the truth at arm's length. Therefore, you must pick one: humanity or the truth.

Humanity's mainstream conception of reality exists merely for the sake of keeping society functioning and orderly. However, human beings incorrectly think that this synthetic conception of reality is reality. Worse yet, fake truth seekers try to get the truth to conform to this synthetic conception of reality.

"Truth is beyond social acceptance. Truth is maladjusted and cannot fit into the massively dumb patterns of ordinary relationships and activities. ... Greater truth cannot come to those who never bring up the possibility of it to one another. ... People do not inquire beyond their knowledge because they do not want to have any disturbing shift in their knowledge pattern. The cognitive system is calm and stable through avoiding any disturbing new truth" (Gabriel Chiron, "Truth is Greater Than Man").

The Great Contradiction of You So-Called "Rationalists"

You do not have access to Top Secret government information or to Top Secret government facilities. Nor are you a member of any of Earth's secret societies. In addition, you were not born 5,000 years ago; you were born only within the last 100 years, so you were not able to see history unfold with your own eyes.

Yet, despite all of these undeniable facts, you claim that you already know what the truth is.

Well, via compartmentalization, you are able to acknowledge the fact that government secrets exist and that secret societies exist, while simultaneously claiming that you, somehow, already know for a fact what the truth is.

In reality, you simply base the truth upon what the media tells you and what Earth's authority figures tell you. And, you are foolish enough to equate reading about an event in a history book to actually seeing that event with your own eyes. You don't believe religious texts, yet you still believe government texts such as history books and government belief systems such as science. As a practitioner of selective reasoning, how dare you call yourself a "rationalist"?

You trust Earth's authority figures because they are powerful and you think they are trustworthy. Obviously, however, these authority figures would never willingly incriminate themselves to you. If they did incriminate themselves to you, then you would no longer consider them to be legitimate authority figures.

Officialdom

Official doctrines, by definition, do not incriminate the officials who created them. If official doctrines did incriminate the officials who created them, then the officials would be looked down upon by the public, and therefore they and their doctrines would no longer be considered official. This is simple logic.

So, as you can see, official doctrines are by no means synonymous with the truth. Rather, official doctrines are simply doctrines that were designed to keep in power the very officials who created them.

Furthermore, the word "official" should not be associated with the word "rational." Science is indeed an official government doctrine, yet it is not completely rational. The scientific community, in a bizarre and irrational manner, completely blows off the concept of government secrets. Science, by design and necessity, always downplays the significance of the government's power.

Science must downplay the significance of the government's power because it is of the utmost importance that the ignorant followers of science, who are not "in the know," such as the common atheist, think only within the framework of status quo reality. If science did not downplay the significance of the government's power, then people would quickly realize that science is bullshit and that the status quo conception of reality is also bullshit. In other words, if people knew what really goes on behind the scenes, then they would quickly realize that science is just another form of control, courtesy of the ruling elite.

Worshipping Authority

Note that the only people offended by this kind of anti-science information are those who worship Earth's authority figures. Although, these people will explain away such an accusation by claiming that science is synonymous with rationality, and therefore is simply the best way to seek the truth.

In actuality, however, science is merely pseudo-rational: Science rejects the existence of certain phenomena, not because these phenomena aren't real, but rather because the truth about these phenomena would incriminate the ruling elite. So, this false science is a fascist form of truth-seeking, and you pseudo-rationalists worship the dictatorial authority figures of science.

Morality

In essence, all the mysterious and paranoid-sounding "suppression of the truth" simply boils down to the issue of morality. Human beings fail to realize that morality is not needed for those in power. Only the weak masses need morality, because they are not in complete control of their own destinies, and thus can be punished for any of their unsavory actions. So, when it comes to the matter of dispensing the truth, the ruling elite elect not to tell the masses the real truth about reality because they have absolutely no reason, motivation, or obligation to do so.

If one takes a step back and looks at the general attitude of Earth's authority figures, they will see that these authority figures do not exude the truth. Rather, when it comes to such tasks as disclosing information, these authority figures have an aura of shadiness. Instead of divulging all of the information that they know, they divulge as little information as possible.

So, getting back to the matter of the ruling elite dispensing the truth to the masses, a great analogy for this would be that of a lion nonchalantly swatting away a fly with its tail: The ruling elite will invent any bogus (yet still within reason) religion or scientific theory just to keep the masses from questioning reality. However, more than just temporarily quelling the masses, these bogus belief systems are actually able to control the masses because people foolishly end up believing in them and taking them to heart. So, in other words, instead of people interpreting a bogus belief system as simply being a possible theory or possible explanation of reality, people totally succumb to (that is, adopt) the bogus belief system because not only is the belief system within reason, but it also came from a very powerful authority figure.

The ruling elite are not anchored down by morality. They set the rules, invent the religions, invent the political gods, invent a false scientific theory, and do as they please. On the other hand, the masses are, by necessity, slaves to morality: If the common man does not behave properly, then, via the ruling elite's rules, he may be punished.

The logic of a common man is not the same as that of a man in power, because the common man's logic is infected with morality.

The Continuity of Power

The ruling elite's deception against humanity mainly exists at a fundamental level, affecting the aspects of reality that you erroneously assume are basic truths. After all, it's not as if you were born 5,000 years ago. Rather, you were born only within the last 100 years, and thus, you were born into a world that was already neck-deep in deception. So, for example, your understanding of history is skewed, because the so-called "official" version of history that you were taught was written by the ruling elite themselves.

The very basis of this society is to worship authority (whether it is the government, false science, the media, etc.)? And, whereas a religion has faith in the existence of an imaginary god, the common men have faith in the trustworthiness of his beloved authority. The common mans never ask for proof or evidence when information comes from an authority figure. Instead, they simply rely on faiths in the trustworthiness of the authority figure.

Some words about conspiracy.

Not everything is a conspiracy, but let’s face it: those who strive for power are also those most likely to abuse it. The correct use of power requires integrity and wisdom, virtues human nature doesn’t come with by default; they are acquired virtues and thus quite rare. It follows

that due to this rarity, of those who gain power the majority will lack the integrity and wisdom to use it correctly. And so conspiracies arise, for conspiracies are nothing more than underhanded schemes of self-serving individuals bent on gaining and maintaining power.

This basic observation has held true for thousands of years, and being that power hungry individuals are also ruthlessly intelligent and persevering, enough time has passed for the establishment of gargantuan conspiracies designed to eventually give these madmen ultimate power over mankind. This madness is not limited to human psychopaths, but extends to nonhuman ones who have long set their eyes on dominating mankind. Toward this end, there exists an ancient global shadow government still coordinating world affairs from behind the scenes, running a script that through machiavellian principles guides mankind ever closer to acquiescing its collective liberty in exchange for security under global tyranny.

Elected governments are false fronts coordinated by a global shadow government, national governments pretend independent motives while enacting a scripted version of world events.

The global shadow government, also known as the New World Order or illuminati, consists of human elite who seek total domination over mankind. These human elite are assigned the task of enslaving the rest of mankind. Because such individuals are hungry for power anyway, they have no reservations about enslaving those beneath them.

To consolidate this power, world events are scripted toward creating conditions that rationalize the increasing removal of freedom and independence from nations and individuals. Wars, civil wars, and revolutions provide this catalyst. In the future, earth cataclysms and an overt alien invasion will be used toward these ends.

There is no an American government.

The elected government is a sham. Elections are manipulated to put key puppets into office, and polls are rigged to sway mass opinion. Politicians are blackmailed or bribed into serving the New World Order. Blackmail comes via past activities they may have been tempted into partaking, or else such politicians have been bribed with luxuries and promises of further power, privilege, and survival in times to come.

The majority of those who become politicians are corrupt. It takes psychopathic ruthlessness to make it to the top of politics, and because of networking and other factors, only those selected by the shadow government ultimately make it to the top. There are countless ways of getting rid of dissenters, from assassination to discrediting to blackmail.

Tricks used by world manipulators include Hegelian dialectics and false dichotomies. Hegelian dialectics is better known as problem-reaction-solution, whereby a problem is created to push people into accepting a rigged solution. Incidents such as the Oklahoma City bombing, Columbine massacre, and 9/11 attacks were engineered by the shadow government to justify the further removal of freedoms from the populace to “keep them safe.” Ultimately, liberty traded for security leads to slavery.

False dichotomies are illusory choices, options that all lead to the same outcome. The dichotomies of “liberal vs conservative” and “secular vs religious” are false dichotomies because each side leads to the same end result of ignorance and imbalance. The political system relies on the illusion of two party choice which makes people think they’re living in a democracy. There is no democracy because mass opinion is swayed through media

manipulation and rigged polls, and there is no republic because the electoral college consists of bought members who obey the shadow government. The most willing slaves are those who think they are free.

By laws not being enforced, people demand more laws to solve perceived problems. These laws then pile up until one day all can be enforced at once and create a legal form of totalitarianism.

Media and public education brainwash citizens into acquiescing to corrupted authority. Public education is behavior modification designed to create worker drones instead of capable individuals. This is done through systems of reward and punishment, compartmentalization of the mind, preoccupation with meaningless work, political correctness, and distortions of facts and principles in textbooks.

The media has no obligation to report truth, only to make money and obey orders from the government. Thus they either appeal to the lowest common denominator in mass consciousness and thus help lower mass consciousness further, or else they report stories that propagate an agenda. News is designed to emotionally shock and hypnotize the public into giving up their self-determination and discernment.

The economy is heavily manipulated. Stock markets are rigged to provide funding for the shadow government. What appear as random fluctuations in the market are instead planned in advance, allowing the elite to retract their investments before a planned downturn or crash. This pumping mechanism happens on a greater economic scale as well, allowing the elite to periodically harvest wealth from ignorant citizens who buy into the illusion of a free economy.

The shadow government uses the Federal Reserve and the IRS as further sources of funding. The Federal Reserve prints billions of dollars in cash every year but pays only for the manufacturing cost. This fiat money is then injected into the economy where people assume it has real worth and thus do real work and create real products in exchange for these worthless reserve notes. Normally this would cause inflation, but what the Federal Reserve prints the IRS later takes out through income tax. Because what goes in as fake cash is then taken out as real wealth, citizens are shafted and the parasites of humanity grow fatter.

Why all the control?

No self serving individual wants to lose his power. Control is necessary for those in power to maintain and increase their power. Most manipulative tactics are designed to make people predictable, and what can be predicted can be controlled. To make people predictable, they must be deprived of knowledge, physical and vital energy, initiative, willpower, and individuality. All impulses that cannot be suppressed are diverted toward serving an agenda, and as the saying goes, the road to hell is paved with good intentions.

Each self serving person serves higher self serving forces, and each takes what they want from those they control. This turns earth into a farm and prison. Lower forces want money, security, pleasures while higher dark forces want spiritual power, energy, and conquest.

Secret societies.

Human elite are characterized by superior knowledge and power. Depending on how this knowledge and power is used, they can be of positive or negative orientation. Secret societies

seek isolation from general population, either to protect themselves and work in peace, or to gain an advantage by covertly manipulating the population.

What characterizes secret societies is that they are elite, but not all parts of them are necessarily elitist. Some just stay hidden to better carry out their jobs. Past misunderstandings caused them to be persecuted and so they have learned not to flaunt their presence.

They either start out as elite groups intent on control, or positive groups intent on preserving, refining, and sharing knowledge but the latter inevitably become corrupted. This causes splits within those groups whereby the positive parts go deeper into secrecy while the corrupted parts join the dark hierarchy to manipulate mankind.

Generally, secret societies such as Rosicrucians and Freemasons fill their lower ranks by recruiting from the more successful members of the general population. Fraternity and goodwill characterize these outer levels, but often they are a control mechanism to keep positive individuals from spreading their knowledge by making them take an oath of secrecy. From these members, those with exemplary potential for darkness are recruited into the upper levels of secret societies and placed into positions of power to carry out the dark hierarchy's agenda.

Secret societies often consist of dualities. The dark half seeks knowledge and power to manipulate others, and the light half seek to protect this knowledge from misuse. There are battles between those who seek to abuse knowledge and those that are destined to protect it. These battles are often fought through the masses, which are blind to their own participation in an invisible war.

All dark secret societies are after knowledge that would increase their power and ability to manipulate and conquer. This is achieved by extracting knowledge from the general population, buying the brains to do exotic research, scouring the earth for hidden knowledge and technology from past civilizations (Templars and Skull and Bones are/were known for this).

Secret societies tend to contain concentrations of specific bloodlines, particularly those bloodlines that have a greater portion of off-world genetics. It is why presidents have strong concentrations of royal blood.

Science Today

Science encompasses the study of nature and its laws. Physical reality as we know it is built upon certain rules and structures separate from our own chosen perspectives. These can be codified in via mathematics or visualized geometrically. By understanding science, mankind changes his relationship with nature. Some use knowledge of natural laws to more effectively place their personal will over the forces of nature, while others use this knowledge to better harmonize their personal will with nature. The latter brings balance and bounty, while the first brings imbalance and diminishing resources. The world today runs on a power base that relies upon imbalance and diminishing resources to sustain itself as the sole providers of these resources. Technologies that advance individual freedom by connecting man directly with nature instead of through the church of scientism and industry are heavily suppressed or corrupted. Thus, technology – while not substituting for spiritual evolution – does represent an important factor in catalyzing spiritual evolution if it helps free one from material limitations and preoccupations.

Metaphysics of Physics

Science studies the chains of causality. When effects can be predicted from causes, the effects can be controlled by controlling the causes. This is how science is used today – to predict and thus control outcomes, particularly how the forces of nature work toward advancing or hindering our own will. Because science is knowledge, and knowledge is power, those who desire power tend to have research divisions heavily involved in secret science – the more they know, the farther up the causality chain they can act, and thus the more effects they can control.

Science and technology increase the leverage of one's freewill, thus increasing power. Thus, it can be used to maintain control over a lesser leveraged population, or it can be used as counter-technology to level the playing field. Unfortunately, the majority of those who attempt to bring liberating technology into mainstream use and thus upset the power monopoly are killed. This shows that while metaphysical advancement and knowledge are important, the effectiveness of this knowledge increases when used in conjunction with technological advancement and scientific knowledge.

Suppression of Science

Because science acts to increase the leverage of one's freewill, the last thing those in power want is for their subjects to gain increased leverage and thus diminish the power ratio. Thus, liberating technologies are either regulated or suppressed. These technologies include free energy (also called "low cost energy" in secret services reports), antigravity, psychotronics, reality engineering, cancer cures, teleportation, etc… — all of which exist at the secret government level but none of which is open to the public. The greater the technological difference between master and slave levels of society, the greater the power difference.

Researchers of unconventional science who faced suppression include the following: Nikola Tesla, Thomas Townsend Brown, John Searl, Stefan Marinov, Eugene Mallove, Wilhelm Reich, Royal Rife, and Joseph Newman. There are many more who have been eliminated or silenced prior to becoming publicly known.

Science and mathematics as taught in our public educational institutions have been dumbed down and rigged to prevent exploration into sensitive areas. This is done through tricks of logic that play upon the intellect's many vulnerabilities, namely the inability to differentiate absolute from relative values. Certain concepts and variables are discarded on the basis of irrelevance or arbitrariness, when in actuality they are far from arbitrary and instead provide the doorway to secret sciences. Subjects are frequently taught in compartmentalized and overly abstract ways to prevent students from understanding subjects on a gnostic level, meaning on a geometric and intuitive foundation. The latter is necessary to allow true progressive and creative use of knowledge, but what is encouraged instead is applying formulas and definitions in mechanical ways, resulting in refinement rather than evolution of knowledge.

Toward a True Science

Mathematics and geometry describe the rules and structure of the game we all play. However, the outcome of a game does not depend solely upon its rules and structure; the players' freewill choice must also be taken into account. Among other things, physics equations aim to predict definite effects from definite causes. With freewill as a variable, the effects cannot be

entirely predicted. Quantum mechanics provides the best example of this, being a theory of statistical trends rather than deterministic equations because quantum systems always involve a level of uncertainty.

A true science would have to include both a complete description of deterministic physical rules and structures, and allow for the nondeterministic influences of freewill choice. This would make physics a harmonious subset of metaphysics.

The problem of incomplete science is solved by cutting the Gordian knot rather wasting energy trying to untie it. In other words, rather than forcing further refinement of existing mainstream theories, it would be better to revisit the assumptions upon which they are based.

The Bigger Picture

Because knowledge is power, and not all individuals can handle power responsibly, there is good reason why much technology remains hidden from the public. The general rationale is that were certain technologies to fall into the wrong hands, there would be devastating results. For example, teleportation technology used by criminals would render bank safes obsolete.

On the other hand, it is through suppression of technology that the manipulators of this world maintain their overwhelming control. One avenue of control and funding for the elite, the oil industry, would crumble if free energy technology replaced petroleum technology, and if the transition were smooth, we would be liberated from dependence upon finite energy resources. The extra time, capital, and energy gained could then be applied toward progress instead of survival.

So regarding the suppression of knowledge, it is a question of which poses a greater threat: the irresponsible use of knowledge by the ignorant, or the hoarding and consequent abuse of knowledge by the elite? The first justifies keeping certain knowledge secret, the second justifies its release to disempowering the manipulators.

At the highest levels of truth, there is no difference between technology, occultism, and metaphysics – for all are part of a whole and the grand truth in one thus contains the grand truth in the other. Rules and structure still exist outside physicality, and these can be included in science with provisions made for freewill choice. A complete science would place astral planes, parallel dimensions, synchronicities, consciousness, etheric fields, telepathy, vital energies, emotional energies, volition, hyper dimensional existence and time loops all under the same framework. At present, these appear to be phenomena distinct from science, but that is because science as we know it is incomplete. It is not that these phenomena can be explained in terms of present science as reductionists and debunkers enjoy doing, but rather that present science must expand to accommodate these phenomena in terms of higher physical and metaphysical principles.

To know nature is to know one portion of the Creator. To know yourself is to know another portion of the Creator. Because what is within mirrors what is outside, and what is outside mirrors what is within, knowing both nature and yourself makes for a straight path toward knowing the Creator.

Chapter 4: Considerations on the New World Order

There is a worldwide conspiracy being orchestrated by an extremely powerful and influential group of individuals which include many of the world's wealthiest people, top political leaders, and corporate elite, as well as members of the so-called Black Nobility of Europe (dominated by the British Crown) whose goal is to create a One World (fascist) Government, stripped of nationalistic and regional boundaries, that is obedient to their agenda. Their intention is to effect complete and total control over every human being on the planet. While the name New World Order is a term frequently used today when referring to this group, it's more useful to identify the principal organizations, institutions, and individuals who make up this vast interlocking spider web of elite conspirators.

Every human organization has a power structure, hierarchically or not, but it is there. Take for example a company; it has a CEO, a top management, a middle management and an executive management. This is what we can call the front side of power, but on top of that, we do have council borders or director border or major share borders that are in charge with key decisions. They are also in visible. But between all that members (directors, CEO's, share-holders or owners) secret alliances arises in order to promote a decision, in order to influence the other members, or even to buy in complete secrecy shares from the company using the off-shore companies were nobody knows who the owners are. What happens is that in time, a company it's basically controlled, not by the visible power structure mentioned before, but by a small group of peoples (usually 5 to 7 peoples) who control indirect or direct all the key decisions for their profit. Of course those decisions are made in councils by vote, but this is just a show. This is how a power behind the power forms.

The power structures form a country it's at the basis not much different than a company. Here we have the same appearance of democracy. We have parliaments instead of councils, ministers instead of directors and so on. But it's a stupidity to think that they decide. They only decide at the middle level. The real power into a country is held by the owners of the parties. These persons own at least two parties and many so-called, social NGO's. In United States both parties are own by the same peoples. It's the same in UK, Germany, France, Japan, China and in most countries. When you control a powerful empire-state like England from 1700 and now the United States (or in the future China and India), you can extend your shadow power to many others small states by "buying" local parties or creating ones from scratch. This is what happened in Eastern-Europe in the '90's after the collapse of communism there. Every single east-european state was conquered in this manner. Almost all their parties are nothing more than foreign occupation forces in that country. They came from locals, they spoke the local language but they do not belong or serve the interests of that respective country. Huge amounts of wealth were stolen from them in this way and now the natural resources for example are not controlled by their people. It was a total success of this new type of economic war. And this economic war it's under going right now to an extent never seen in history as the rush for total power accelerate. Why is this happen? Because this is their last chance to gather total control. As the humanity slowly awakes from its ignorance, so the window of opportunity is slowly closing for the criminal elite. By my calculation they already lost any chance to achieve this objective. But maybe I'm wrong; or maybe somebody up there, really, really cares about humanity. After all, who knows, maybe humanity deserve another chance…

I can say with total confidence that the ones who refer to the new world order or one world government conspiracy are in no way far from the truth. The ones who can achieve this goal

can only come form an inner power circle. It can not come from the visible power because here you can not gain enough power; there is simply not enough time for that. It takes time to gather such kind of power, at least a few decades if not more. Who does that, become the power behind the power. You can not do that in a four year mandate.

For those who still do not believe that this is the way the things really are, then please read once again the JF Kennedy speech from the beginning of the previous chapter. He was not delusional, he was not wrong and he was in no way mistaken.

The “Power Behind the Power” or the “Hidden Power Group” makes up a major portion of this controlling elite. Most members of this group “Power Behind the Power” are also members in the highest ranks of numerous secretive societies which in many cases extend way back in the history. The upper levels of the tightly compartmentalized (need-to-know-basis) structural pyramid include planning committees and organizations that the public has little or no knowledge of. The upper levels of the hidden power structure pyramid include secretive committees with names such as: the Council of 3, the Council of 5, the Council of 7, the Council of 9, the Council of 13, the Council of 33, the Grand Druid Council, the Committee of 300 (also called the "Olympians") and the Committee of 500 among others.

In 1992, Dr John Coleman published Conspirators' Hierarchy: The Story of the Committee of 300. With laudable scholarship and meticulous research, Dr Coleman identifies the players and carefully details the hidden power group agenda of worldwide domination and control. On page 161 of the Conspirators Hierarchy, Dr Coleman accurately summarizes the intent and purpose of the Committee of 300 as follows:”A One World Government and one-unit monetary system, under permanent non-elected hereditary oligarchists who self-select from among their numbers in the form of a feudal system as it was in the Middle Ages. In this One World entity, population will be limited by restrictions on the number of children per family, diseases, wars, famines, until 1 billion people who are useful to the ruling class, in areas which will be strictly and clearly defined, remain as the total world population. There will be no middle class, only rulers and the servants. All laws will be uniform under a legal system of world courts practicing the same unified code of laws, backed up by a One World Government police force and a One World unified military to enforce laws in all former countries where no national boundaries shall exist. The system will be on the basis of a welfare state; those who are obedient and subservient to the One World Government will be rewarded with the means to live; those who are rebellious will simple be starved to death or be declared outlaws, thus a target for anyone who wishes to kill them. Privately owned firearms or weapons of any kind will be prohibited."

The sheer magnitude and complex web of deceit surrounding the individuals and organizations involved in this conspiracy is mind boggling, even for the most astute among us. Most people react with disbelief and skepticism towards the topic, unaware that they have been conditioned (brainwashed) to react with skepticism by institutional and media influences that were created by the Mother of All mind control organizations: The Tavistock Institute of Human Relations in London. Author and de-programmer Fritz Springmeier says that most people have built in "slides" that short circuit the mind's critical examination process when it comes to certain sensitive topics. "Slides", Springmeier reports, is a CIA term for a conditioned type of response which dead ends a person's thinking and terminates debate or examination of the topic at hand. For example, the mention of the word "conspiracy" often solicits a slide response with many people. (Springmeier has co-authored three books on trauma-based programming which detail how the hidden power group employs highly tuned and extremely sophisticated Mind Control training programs that begin the programming

process while the intended victim is still within the womb. Mind Control is a much greater problem than most people realize. According to Cisco Wheeler, there are 10 million people who have been programmed as mind controlled slaves using trauma-based MC programs with names like Monarch and MK Ultra. The newer, non-trauma, electronic means of MC programming that grew out of the Montauk Project, may include millions more. Al Bielek, who played a principle role in the development of the Montauk Project, said that there likely 10 million victims of Montauk style mind control programming worldwide, the majority located in the USA. He also said that there are covert Montauk Programming 'Centers' in every major city in the U.S.)

What most Americans believe to be "Public Opinion" is in reality carefully crafted and scripted propaganda designed to elicit a desired behavioral response from the public. Public opinion polls are really taken with the intent of gauging the public's acceptance of the hidden power scheme planned programs. A strong showing in the polls tells the inner circles of power that the programming is "taking", while a poor showing tells the NWO manipulators that they have to recast or "tweak" the programming until the desired response is achieved. While the thrust and content of the propaganda is decided at Tavistock, implementation of the propaganda is executed in the United States by well over 200 'think tanks' such as the Rand Corporation and the Brookings Institute which are overseen and directed by the top NWO mind control organization in the United States, the Stanford Research Institute (SRI) in Menlo Park, California.

The NWO global conspirators manifest their agenda through the skillful manipulation of human emotions, especially fear. In the past centuries, they have repeatedly utilized a contrivance that NWO researcher and author David Icke has characterized in his latest book, The Biggest Secret, as Problem, Reaction, and Solution.

The technique is as follows: their strategists create the Problem by funding, assembling, and training an "opposition" group to stimulate turmoil in an established political power (sovereign country, region, continent, etc.) that they wish to impinge upon and thus create opposing factions in a conflict that the hidden power group themselves maneuvered into existence. In recent decades, so called "opposition" groups are usually identified in the media as 'freedom fighters' or 'liberators' (recently the KLA-Kosovo Liberation Army).

At the same time, the leader of the established political power where the conflict is being orchestrated is demonized and, on cue, referred to as 'another Hitler' (take your pick: Saddam Hussein, Milosevic, Kadaffi, etc.). The 'freedom fighters' are not infrequently assembled from a local criminal element (i.e. KLA, drug traffickers). In the spirit of true Machiavellian deceit, the same NWO strategists are equally involved in covertly arming and advising the leader of the established power as well (the hidden powers always profits from any armed conflict by loaning money, arming, and supplying all parties involved in a war).

The conflict is drawn to the world stage by the controlled media outlets with a barrage of photos and video tape reports of horrific and bloody atrocities suffered by innocent civilians. The cry goes up "Something has to be done!" And that is the desired Reaction (note: the same technique is presently being used to bring about gun control in the United States).

The NWO puppeteers then provide the Solution by sending in UN 'Peace Keepers' (Bosnia) or a UN 'Coalition Force' (Gulf War) or NATO Bombers and then ground troops (Kosovo). Once installed, the 'peace keepers' never leave (Bosnia, Kosovo). The idea is to have NWO

controlled ground troops in all major countries or strategic areas where significant resistance to the New World Order takeover is likely to be encountered.

East Timor, Indonesia. (9/14/99) Virtually, the same strategy used to occupy Kosovo with UN/NATO troops was applied by the NWO manipulators to take military control of East Timor. Once again, the same morality play is trotted out for public consumption: the local evil and demonic Indonesian Army trained militias responsible for the slaughter of innocent civilians following the August 30 vote for Independence (from Indonesian control), must be stopped at all costs. This time, Australia (to keep up the appearance of an 'international' humanitarian effort) will lead the charge with 'peacekeeping' troops. Of course, it didn't take long for Madeline Albright to announce that US 'support assets' will be part of the "UN Peacekeeping Team". In a front page story in the LA Times (9/13/99), Mike Jendrzejczyk of Human Rights Watch (a hidden power front group) in Washington DC said that it's "crucial" that "peacekeepers have the authority to disarm militia forces and any Indonesian soldiers actively working with them".

The local, sovereign military force is either defeated (i.e. Yugoslavia) or, as in the case of the United States itself, replaced by foreign UN "Partnership For Peace" (PFP) troops who take over the jobs of US soldiers who have been sent overseas on 'peacekeeping' missions. In addition to being killed in ground conflicts on foreign soil, US military forces will likely be reduced in the next few years through disease induced attrition (i.e. from mandatory Anthrax Vaccinations required of all US military personnel). These vaccinations will, in all probability, eventually produce the symptoms of the so-called Gulf War Illness, which was acquired by a certain percentage of Gulf War soldiers who were given a "special" anthrax vaccine (intended by the CIA as a test run to ascertain how quickly (and fatally) the disease would progress with a substantial population of healthy young men and women).

The corporate portion of the NWO pyramid seems to be dominated by international bankers and the big pharmaceutical cartels, as well as other major multinational corporations. The Royal Family of England, namely Queen Elizabeth II and the House of Windsor, (who are, in fact, descendants of the German arm of European Royalty -the Saxe-Coburg-Gotha family- changed the name to Windsor in 1914), are high level players, along with the British oligarchy which controls the upper strata of the hidden power structure. The decision making nerve centers of this effort are in the London (especially the City of London), Basel Switzerland, and Brussels (NATO headquarters).

The United Nations, along with all the agencies working under the UN umbrella, such as the World Health Organization (WHO), are full time players in this scheme. Similarly, NATO is a military tool of the NWO.

The leaders of all major industrial countries like the United States, England, Germany, Italy, Australia, New Zealand, etc. (E.g. members of the "G7/G8") are active and fully cooperative participants in this conspiracy. In this century, the degree of control exerted by the hidden power has advanced to the point that only certain hand-picked individuals, who are groomed and selected by the them are even eligible to become the prime minister or president of countries like England, Germany, or The United States. It didn't matter whether Bill Clinton or Bob Dole won the Presidency in 1996, the results would have been the same (except maybe for Zipper Gate). Both men are playing on the same team for the same ball club. Anyone who isn't a team player is taken out: i.e.President Kennedy, Ali Bhutto (Pakistan) and Aldo Moro (Italy). More recently, Admiral Borda and William Colby were also killed because they were

either unwilling to go along with the conspiracy to destroy America, weren't cooperating in some capacity, or were attempting to expose/ thwart the Takeover agenda.

Most of the major wars, political upheavals, and economic depression/recessions of the past 100 years (and earlier) were carefully planned and instigated by the machinations of these elites. They include The Spanish-American War (1898), World War I and World War II; The Great Depression; the Bolshevik Revolution of 1917; the Rise of Nazi Germany; the Korean War; the Vietnam War; the 1989-91"fall" of Soviet Communism, the 1991 Gulf War; and the recent War in Kosovo. Even the French Revolution was orchestrated into existence by the Bavarian power group and the House of Rothchild.

FEMA

In America, the Federal Emergency Management Administration (FEMA) was created in 1979 under Presidential Memorandum 32 authored for President Carter by Prof. Samuel P. Huntington, a Harvard professor and former FEMA Advisory Board chairman. Huntington wrote the Seminal Peace for the Trilateral Commission in the mid 70's, in which he criticized democracy and economic development as outdated ideas. As co-author of another report prepared for the Trilateral Commissiosn, The Crisis of Democracy, Huntington wrote:

"We have come to recognize that there are potential desirable limits to economic growth. There are also potentially desirable limits to the indefinite extension of political democracy. A government which lacks authority will have little ability short of cataclysmic crisis to impose on its people the sacrifices which may be necessary."

Huntington's ideas were rewritten into National Security Decision Directive #47 (NSDD47), which was enacted in July 1982 by President Reagan. Treated as a passing footnote by the media, this law identified legitimate areas to be upgraded to maintain national defense, but it also laid the groundwork for Emergency Mobilization Preparedness, a plan under which existing socio/economic regulations or other legal constraints would be waived in the event of a national emergency. This plan was further strengthened in Public Law 101-647, signed by President Bush in November 1990.What it boils down to is this: in the event that the President declares a national emergency, for any reason (from major earthquakes to increased international tensions or economic /financial crisis of any stripe), FEMA can then, at their discretion, implement Executive Orders 10995 through 11005. These Executive Orders permit a takeover by FEMA of local, state, and national governments and the suspension of constitutional guarantees. FEMA will have the authority to exert any sort of control that it deems necessary upon the American public. A trained National Police Force, formally referred to by the name of Multi Jurisdictional Task Force (MJTF), wearing black uniforms. These members of the MJTF will implement and enforce martial law under the direction and control of FEMA. The President and Congress are out of the loop. FEMA is the Trojan Horse by which the New World Order will implement overt, police-state control over the American populace.

War on Drugs

The "War on Drugs" is a cruel joke. The US government, specifically the CIA, is the biggest 'drug lord' on the planet. Drug money is used to pay for innumerable 'black projects', including the construction of huge underground secret US government bases.

The instigation of a trumped-up war as a cover for amassing fortunes can be dated back to at least the 12th Century when only a core group of nine members of an hidden power group group called the Knights Templar, the military arm of a secret society known as the Priory of Sion, kicked off the The Crusades that lasted for over a century and a half. A rift later developed between the Templars and the Priory of Sion when Jerusalem was lost to Saracen Turks in 1187. In 1307, the king of France, Philippe the Fair, coveted the wealth and was jealous of the Templars' power. The French king, being a puppet of the Priory of Sion, set out to arrest all the Templars in France on October 13. While many Templars were seized and tortured, including their Grand Master, Jacques de Molay, many other Templars (who had been tipped off) escaped. They eventually resurfaced in Portugal, in Malta (as the Knights of Malta) and later in Scotland as The Scottish Rites of Free Masonry.

The acquisition and consolidation of ever greater wealth, natural resources, total political power, and control over others are the motivating forces which drive the decisions of the hidden power group. The toll in human suffering and the loss of innocent lives are non issues for these individuals.

The Control System

What we have today is a Control System designed to regulate every facet of human existence in order to monitor and prevent anyone from discovering or doing something that could destabilize it. It heavily targets people who give others the knowledge they need to see through deception and take back power. Ultimately this goes back to the energy farm that cultivates ignorance and suffering among humans to harvest energy for the advanced negative beings; without an effective Control System, there would be no effective harvesting. Like a dairy farmer, the more efficient his farm and automated his milking machines, the more profit he can reap. What follows is a brief and simplified overview of the main areas of the Control System and how they shape our lives.

Religion

Religion gives people a feeling of security in exchange for unquestioning obedience. On the positive side it encourages devotion to ideals higher than just material success, like helping others or serv-ing a divine cause. On the negative side religion can be horribly misused to program people like robots and make them do stupid things like hate and kill those of a different religion.

The main role of religion throughout history has been to keep society well behaved. This was done by imprinting children with moral codes and instilling a fear of authority that shaped them into law-abiding and hard-working citizens. Unlike spirituality, religion aimed to enforce good behavior through programming and intimidation rather than true understanding, so the improvement to society came at the cost of ignorance.

But the worst purpose religion serves is to spiritually drain and enslave mankind. Whenever someone blindly obeys questionable sources of authority rather than listening to his own heart, part of his soul shrivels from neglect. Whenever someone begs an external authority for strength and assistance rather than realizing that divine power is within, soul energy is lost to this external authority and it becomes harder to access the inner divine power. Whenever someone believes something without experiencing, pondering, or intuiting it for himself and then goes around pushing it onto oth-ers, his ability to think new thoughts decreases and he becomes ever more robotic. Organized religion encourages all of these.

School

Schools are necessary but far from perfect. The influential people who established our modern school system were businessmen who wanted children to become skilled and obedient workers to man their factories and offices. Therefore they structured schools to churn out mindless workers rather than free spirited and independent thinkers. Students who retain their creativity and independence of mind are capable of earning a living without working for big companies that make up the economic parts of the Control Sys-tem, and perhaps they even start their own businesses that take money and power away from the Control System.

So although schools teach students the important skills of math, reading, and writing, they serve more to churn out effective workers who are dependent on the Control System than independent thinkers who can find their own way in life. School does this through several manipulative tactics.

The first method is spending more class time and energy on behavioral conditioning than teaching. Behavioral conditioning means using rules, rewards, and punishments to intentionally mold someone's thoughts, feelings, and behaviors. Too many school rules are unnecessary and intended more to make students feel powerless and angry than improve the learning environment.

The second method is hammering into the minds of students a single path through life, one that involves pleasing authority in order to gain the grades and recommendations one needs to get into a good college, to get the diploma one needs to get a good job at a big company, to get the respect one needs to feel good and secure an early retirement. This picture comes with the warning that if you stray from this path, you will end up a starving bum, which is false because some of the richest people in the world never finished college. You don't have to sacrifice your freedom and dreams to be cared for by the Control System, rather you can use ingenuity and resourcefulness to clear your path through life.

The third method involves structuring textbooks and classes to be as fragmented as possible so that everything is learned in unrelated chunks. This way students memorize the facts in each chunk of a subject and can solve the homework problems, but in their minds these never melt together into a big picture that gives them truly intuitive understanding of the subject necessary to use the ideas and original ways. Students therefore become skilled in doing things only in the way they are taught, losing the ability to come up with better ways, and that is how they become like programmable robots that do their jobs without asking questions.

The fourth method includes twisting facts in textbooks to create a false picture of the world. History and science books are the worst because they are oversimplified for the average mind and written by committees with political agendas, so the actual picture given to students is rarely accurate because it is intended to steer them toward holding only those opinions supported by the Control System. More accurate history and science books can be found in public libraries, but the ones most dangerous to the Control System are only available through the Internet or book catalogs specializing in fringe subjects like conspiracy, paranormal, esoteric, alternative history, alien, and so on. Not to say that all books in libraries and such catalogs are truthful, just that the really good ones are not mentioned in school and often not even available in public libraries.

The key to beating the school system is to take from it only what you need to accomplish your goals that defy the Control System, and to do most of your learning outside of school through

life experience, conversation, pondering, experiments, creative hobbies, and so on. True freedom means making enough money to do what you enjoy, while having enough time and energy left to enjoy it. An easy job that earns you enough is better than a stressful job that earns you more. If whatever you gain from time spent inside the Control System, whether lessons from school or money from work, you apply towards positive and necessary activities that go against the Control System, like educating yourself and others on higher truths, then you are taking power away from something negative and using it to increase something positive. If you are aware of the bigger picture, then you can make it through the school system without getting brainwashed into accepting goals that play on your fears and go against what makes your soul happy.

The Media

Whereas school programs people up until a certain age, the media programs them for the rest of their lives. Newspapers, the nightly news, television, movies—these are all methods through which a person's opinions can be manipulated. One would think that news exists to tell citizens what's happening in the world, but in truth it is merely in the business of making money and taking orders from the government, therefore the stories it reports are carefully selected to carry out an agenda, to portray certain shady government actions in a good light, or to entertain viewers with cute stories that have no real practical meaning.

Out of a million things that happen every day, only a few events ever make it onto the news. If a certain theme of events is selected, the viewer sees one picture of the day's events. If a different set of events are selected, the viewer sees an entirely different picture. For instance, the American Media paints a picture designed to make Americans overly paranoid and fearful of terrorists and criminals so that they will support the government's actions to bomb more countries and take away more of our rights and privacy. In this way people's perceptions of what's happening can be manipulated simply by showing them what the media companies and government want them to see. Anything they should not know about is not shown. Important stories that would threaten the Control System by giving people greater awareness are passed over for less significant news like celebrity gossip or some rescued puppy story.

Fortunately there are alternative news outlets that deal with real issues like the fact that the government was responsible for the September 11th attacks, that America is becoming a police state where citizens are under constant surveillance, or that global warming will result in escalating disasters and loss of life. Fortunately the alternative media* exists to cover these, yet is forced to operate through radio, Internet, DVDs, and magazines instead of cable television because these are less regulated. But while the alternative media brings suppressed truths to light, some news outlets are heavily focused on the latest atrocities and injustices in the world that none of the readers can do anything about, and these happen to unintentionally serve the negative higher beings who feed on all the frustration and anger generated by such news stories. To get around this, it is important to remember the bigger picture, to keep a positive attitude of hope and compassion when learning about the rampant problems in this world.

Food and Medical Industries

Healthy people have more money, time, and energy to make a difference than those who are sick, broke, and depressed. The food industry has been steered by the Control System to create unhealthy and tainted diets that lower people's immune systems and increase their risk of cancer. The medical industry is corrupt and provides overpriced treatments and medicines

that merely cover up the symptoms of illness instead of addressing the root cause. As a result people get sick more often and go into debt from unnecessary medical bills.

Doctors are meant only to diagnose and treat what the patient cannot, therefore it is important for the patient to be educated on the symptoms of common illnesses to avoid making expensive doctor visits only to hear the usual: drink lots of fluids and take an over-the-counter fever reducer. Many common illnesses can be self-diagnosed and treated with natural remedies. For instance, ginger root helps get rid of nausea and morning sickness, but the medical industry would prefer making you pay for some fancy drug that does the same thing but with more side-effects and ten times the cost. Melatonin supplements aid sleep and spirulina powder reduces fatigue. People have reported successfully treating cancer with sunshine, fresh air, a positive attitude, and diet consisting of fresh foods and vegetable juices. Learning about natural health lifestyles and remedies gains you further independence from the Control System.

The common diet makes people weak, fat, dumb, and sick. Fluoride in toothpaste and water does more to interfere with brain function than hardening teeth against cavities. White flour in breads and pastries lowers the immune system, accelerates the body's production of fat cells, and is the leading cause of diabetes. Margarine (vegetable shortening, hydrogenated oils) is not really edible and ends up in the blood stream where it clogs arteries and contributes to heart attacks. Non-fermented soy products contain inedible substances and hormone-mimicking chemicals that interfere with the growth of infants and upset the hormonal balance in adults. Yet these are all things the government, medical, and food industries say are good for us. A balanced diet of natural foods like oats and brown rice, light meats, olive oil and butter, fresh fruits and vegetables is healthier, simpler, and cheaper than a diet of breads, cereals with food coloring, preserved meats, and junk food. The junk food industry makes part of its money accepting and incorporating industrial wastes into food products, which is why microwaveable meals, packaged pastries, and chips, contain lists of unpronounceable ingredients—another reason to replace these with natural healthy alternatives when possible.

The Criminal Elite

For thousands of years, individuals who saw themselves as different as and better than everyone else have banded together into various groups to coordinate their skills and resources to gain power. They have accumulated wealth and secret knowledge through the centuries to pass on to their descendants. Over time this established influential secret societies and wealthy families who today possess so much power that they can script major world events like wars, economic depressions, and the rise or fall of nations. It is these powerful elite who run the world today and act as the human custodians of the Control System. These bloodlines and groups exist among every race on earth, but some are older and more powerful than others. They see themselves as wolves that have the natural right to prey upon us whom they see as masses of ignorant sheep deserving it, which is false because more people would manifest their potential as aware and empowered spirits if given the chance instead of being overwhelmingly beaten down in life by the various arms of the Control System.

So, in the essence the New World Order (NWO) actually referrers to a New Control System.

The current economical and financial worldwide crisis (as well as all crises) has been engineered. Nothing is random; everything had been planned in advance. One part of the New Control System (or NWO) is to create a one big world bank - a single global bank emerging under an unaccountable One World Govern.

Zbigniew Brzezinski said in a lecture that for the first time in human history the public generally knows what's all about politics and financial systems. This is the variable factor right now. Without it, the New World Order will be set up easily. This variable factor – the public awareness – has the potential to change the desired outcome.

However, remember that the people can only be defeated by the people; peoples can only be defeated if you use the force of the people against them. It means that this 1% that rules can do nothing without the support of normal, ordinary peoples: police staff, military personnel, others force agency controlled by the government. The force of the people *must* be used against the people in order to defeat them.

Open Message to the Police and the Military

"This is a message to the Police, to the military, to the TSA, to Homeland Security and to members of every other enforcement arm of the government.

I know that most of you chose the life in uniform because you love your country; because you believed in what that uniform stood for; because you wanted to serve and protect... but I also know that deep down inside you sense that something has gone terribly wrong.

You've watched with the rest of us as elected officials have incrementally legislated our constitutional rights away, you've watched as the state surveillance apparatus has expanded like a cancer through the heart of the nation, and you've watched as the corruption has become more and more blatant. I can understand why you haven't wanted to acknowledge the implications of what you are witnessing. To face the reality of what is happening would mean admitting that you've been betrayed, and it would mean coming to terms with the fact that you... are working... for criminals.

I don't envy your position. I know your job depends on you following orders. I know you have families to support and bills to pay, and I know that if you stand up you could loose everything... but what you need to understand is that continuing to submit to unconstitutional and immoral orders will not protect you from what is coming.

You may tell yourself that you will take a draw your line in the sand later, that there is a certain point where you will say no, but in reality, you crossed the line a long time ago. You are standing on the wrong side of history right now. You are already participating in the destruction of this country, in the trampling of our rights, of your children's rights, and grandchildren's rights. You are the enforcement arm of a criminal enterprise, you are a servant of a rapidly expanding police state, and you DO have a choice.

I'm not telling you this to condemn you. I'm telling you this because we the people desperately need you to take a stand. We desperately need you to have the courage to face your commanding officers, and tell them no, I didn't sign up for this. No this isn't right. No, I will not obey these unlawful orders.

You took an oath to defend the constitution against all enemies foreign and domestic. Time to start taking that oath seriously"

Exciting times are ahead! The waves of change are upon us. Will you stick your head in the sand and be pulled under, or will you surf the fringes of these waves to freedom?

Chapter 5: The World Financial System.

Billions for the Elites - Debts for the People

In 1901 the national debt of the United States was less than $1 billion. It stayed at less than $1 billion until they got into World War I. Then it jumped to $25 billion. The national debt nearly doubled between World War I and World War II, increasing from $25 to $49 billion. Between 1942 and 1952, the debt zoomed from $72 billion to $265 billion. In 1962 it was $303 billion. By 1970, the debt had increased to $383 billion. Between 1971 and 1976 it rose from $409 billion to $631 billion. The debt experienced its greatest growth, however, during the 1980s, fueled by an unprecedented peacetime military buildup. In 1998, the outstanding public debt will roar past $5.5 trillion. The unconstitutional "share" of this debt for every man, woman and child is currently $20,594.86 and will continue to increase an average of $630 million every day, which doesn't include the $26 trillion in individual credit card debts, mortgages, automobile leases and so on.

Today, as we stand before the dawn of a New World Order run by internationalist financiers, most of the revenue collected by the Federal government in the form of individual income taxes will go straight to paying the interest on the debt alone. At the rate the debt is increasing, eventually we'll reach a point where, even if the government takes every penny of its citizens' income via taxation, it will still not collect enough to keep up with the interest payments. The government will own nothing, the people will own nothing, and the banks will own everything. The New World Order will foreclose on America. If the present trend continues, and there is no evidence whatsoever that it will not continue, we can expect the national debt to nearly double again within the next six to eight years. By then, the interest on the debt alone should be in the $400 billion a year range.

Three Types of Conquest

History reveals that nations can be conquered by the use of one or more of three methods.

The most common is conquest by war. In time, though, this method usually fails, because the captives hate the captors and rise up and drive them out if they can. Much force is needed to maintain control, making it expensive for the conquering nation.

A second method is by religion, where men are convinced they must give their captors part of their earnings as "obedience to God." Such captivity is vulnerable to philosophical exposure or by overthrow by armed force, since religion by its nature lacks military force to regain control, once its captives become disillusioned.

The third method can be called economic conquest. It takes place when nations are placed under "tribute" without the use of visible force or coercion, so that the victims do not realize they have been conquered. "Tribute" is collected from them in the form of "legal" debts and taxes, and they believe they are paying it for their own good, for the good of others, or to protect all from some enemy. Their captors become their "benefactors" and "protectors". This is the case of European Union invading and conquers of the East Europeans countries.

Although this is the slowest to impose. It is often quite long lasting, as the captives do not see any military force arrayed against them, their religion is left more or less intact, they have freedom to speak and travel, and they participate in "elections" for their rulers. Without

realizing it, they are conquered, and the instruments of their own society are used to transfer their wealth to their captors and make the conquest complete.

In 1900 the average American worker paid few taxes and had little debt. Last year, payments on debts and taxes took more than half of what he earned. Is it possible a form of conquest has been imposed on America? Read the following pages and decide for yourself.

Americans, living in what is called the richest nation on earth; seem always to be short of money. It's impossible for many families to make ends meet unless both parents are in the work force.

Men and women hope for overtime hours or take part time jobs evenings and weekends; children look for odd jobs for spending money; the family debt climbs higher. Psychologists say one of the biggest causes of family quarrels and breakups is "arguing over money." Much of this trouble can be traced to our present "debt-money" system.

Too few Americans realize why the Founders wrote into Article I of the U. S. Constitution: "Congress shall have the power to coin money and regulate the value thereof." They did this, as we will show, in the hope that it would prevent "love of money" from destroying the Republic they had founded.

Money is "created", not grown or built.

Economists use the term "create" when speaking of the process by which money comes into existence. "Creation" means making something which did not exist before. Lumber workers make boards from trees, workers build houses from lumber, and factories manufacture automobiles from metal, glass and other materials. But in all these they did not actually "create." They only changed existing materials into a more usable and, therefore, more valuable form. This is not so with money. Here, and here alone, man actually "creates" something out of nothing. A piece of paper of little value is printed so that it is worth a piece of lumber. With different figures it can buy the automobile or even the house. It's value has been "created" in the truest sense of the word.

"Creating" money is very profitable!

As is seen by the above, money is very cheap to make, and whoever does the "creating" of money in a nation can make a tremendous profit. Builders work hard to make a profit of 5 percent above their cost to build a house. Auto makers sell their cars for 1 percent to 2 percent above the cost of manufacture and it is considered good business. But money "manufactures" have no limit on their profits, since a few cents will print a $1 bill or a $10,000 bill. That profit is part of our story, but first let consider another unique characteristic of the thing, money, the love of which is the "root of all evil".

Adequate money supply is of course needed. An adequate supply of money is indispensable to civilized society. We could forego many other things, but without money industry would grind to a halt, farms would become only self-sustaining units, surplus food would disappear, jobs requiring the work of more than one man or one family would remain undone, shipping and large movement of goods would cease, hungry people would plunder and kill to remain alive, and all government except family or tribe would cease to function.

An overstatement, you say? Not at all. Money is the blood of civilized society, the means of all commercial trade except simple barter. It is the measure and the instrument by which one

product is sold and another purchased. Remove money or even reduce the supply below that which is necessary to carry on current levels of trade, and the results are catastrophic. For an example, we need only look at America's depression of the early 1930's.

Bankers' depression of the 1930's.

In 1930 America did not lack industrial capacity, fertile farmlands, skilled and willing workers or industrious families. It had an extensive and efficient transportation system in railroads, road networks, and inland and ocean waterways. Communications between regions and localities were the best in the world, utilizing telephone, teletype, radio, and a well operated government mail system.

No war had ravaged the cities or the countryside, no pestilence weakened the population, nor had famine stalked the land. The United States of America in 1930 lacked only one thing: an adequate supply of money to carry on trade and commerce.

In the early 1930s, bankers, the only source of new money and credit, deliberately refused loans to industries, stores and farms. Payments on existing loans were required however, and money rapidly disappeared from circulation. Goods were available to be purchased, jobs waiting to be done, but the lack of money brought the nation to a standstill.

By this simple ploy America was put in a "depression" and bankers took possession of hundreds of thousands of farms, homes, and business properties. The people were told, "times are hard" and "money is short." Not understanding the system, they were cruelly robbed of their earnings, their savings, and their property.

No Money for Peace, but Plenty for War.

World War II ended the "depression." The same Bankers who in the early 1930's had no loans for peacetime houses, food and clothing, suddenly had unlimited billions to lend for army barracks, K-rations and uniforms.

A nation that in 1934 could not produce food for sale, suddenly could produce bombs to send free to Germany and Japan!

With the sudden increase in money, people were hired, farms sold their produce, factories went to two shifts, mines reopened, and "The Great Depression" was over!

Some politicians were blamed for it and others took credit for ending it. The truth is the lack of money (caused by Bankers) brought on the depression, and adequate money ended it. The people were never told that simple truth and in this article we will endeavor to show how these same bankers who control our money and credit have used their control to plunder America and place us in bondage.

Power to coin and regulate money

When we can see the disastrous results of an artificially created shortage of money, we can better understand why the Founding Fathers, who understood money, insisted on placing the power to "create" money and the power to control it ONLY in the hands of the Federal Congress.

They believed that ALL Citizens should share in the profits of its "creation" and therefore the Federal government must be the only creator of money. They further believed that all citizens, of whatever state, territory or station in life, would benefit by an adequate and stable currency. Therefore, the Federal government must also be, by law, the only controller of the value of money.

Since the Federal Congress was the only legislative body subject to all the citizens at the ballot box, it was, to their minds, the only safe depository of so much profit and so much power. They wrote it out in simple, but all inclusive manner: "Congress shall have the power to Coin Money and Regulate the Value Thereof."

How was lost control of the Federal Reserve (FED)

Instead of the Constitutional method of creating money and putting it into circulation, US now have and entirely unconstitutional system. This has brought USA to the brink of disaster.

Since the money was handled both legally and illegally before 1913, we shall consider only the years following 1913, since from that year on, all of our money had been created and issued by an illegal method that will eventually destroy the United States if it is not changed. Prior to 1913, America was a prosperous, powerful, and growing nation, at peace with its neighbors and the envy of the world. But in December of 1913, Congress, with many members away for the Christmas Holidays, passed what has since been known as the Federal Reserve Act.

Omitting the burdensome details, it simply authorized the establishment of a Federal Reserve Corporation, run by a Board of Directors (The Federal Reserve Board). The act divided the United States into 12 Federal Reserve "Districts."

This simple, but terrible, law completely removed from Congress the right to "create" money or to have any control over its "creation", and gave that function to The Federal Reserve Corporation. It was accompanied by the appropriate fanfare. The propaganda claimed that this would "remove money from politics" (they did not say "and therefore from the people's control") and prevent "boom and bust" economic activity from hurting our citizens.

The people were not told then, and most still do not know today, that the Federal Reserve Corporation is a private corporation controlled by bankers and therefore is operated for the financial gain of the bankers over the people rather than for the good of the people. The word "Federal" was used only to deceive the people.

More disastrous than any war

Since that "day of infamy", more disastrous to USA than any war, the small group of "privileged" people who lend us "our" money have accrued to themselves all of the profits of printing our money, and more! Since 1913 they have "created" tens of billions of dollars in money and credit, which, as their own personal property, they can lend to our government and our people at interest (usury).

"The rich get richer and the poor get poorer" had become the secret policy of the Federal government. An example of the process of "creation" and its conversion to peoples "debt" will aid our understanding.

Billions in Interest Owed to Private Banks

We shall start with the need for money. The Federal Government, having spent more than it has taken from its citizens in taxes, needs, for the sake of illustration, $1,000,000,000. Since it does not have the money, and Congress has given away its authority to "create" it, the Government must go to the "creators" for the $1 billion.

But, the Federal Reserve, a private corporation, does not just give its money away! The Bankers are willing to deliver $1,000,000,000 in money or credit to the Federal Government in exchange for the government's agreement to pay it back, with interest. So Congress authorizes the Treasury Department to print $1,000,000,000 in U.S. Bonds, which are then delivered to the Federal Reserve Bankers.

The Federal Reserve then pays the cost of printing the $1 billion (about $1,000) and makes the exchange. The government then uses the money to pay its obligations. What are the results of this fantastic transaction? Well, $1 billion in government bills are paid all right, but the Government has now indebted the people to the bankers for $1 billion on which the people must pay interest!

Tens of thousands of such transactions have taken place since 1913 so that in 1996, the U.S. Government is indebted to the Bankers for more than $5,000,000,000,000 (trillion). Most of the income taxes that we pay as individuals now goes straight into the hands of the bankers, just to pay off the interest alone, with no hope of ever paying off the principle. Our children will be forced into servitude.

But wait! There's more! You say, "This is terrible!" Yes, it is, but we have shown only part of the sordid story. Under this unholy system, those United States Bonds have now become "assets" of the banks in the Reserve System which they then use as "reserves" to "create" more "credit" to lend. Current "reserve" requirements allow them to use that $1 billion in bonds to "create" as much as $15 billion in new "credit" to lend to states, municipalities, to individuals and businesses.

Added to the original $1 billion, they could have $16 billion of "created credit" out in loans paying them interest with their only cost being $1,000 for printing the original $1 billion! Since the U.S. Congress has not issued Constitutional money since 1863 (more than 100 years), in order for the people to have money to carry on trade and commerce they are forced to borrow the "created credit" of the Monopoly bankers and pay them usury-interest!

Manipulating Stocks for More Profit

In addition to almost unlimited usury, the bankers have another method of drawing vast amounts of wealth. The banks who control the money at the top are able to approve or disapprove large loans to large and successful corporations to the extent that refusal of a loan will bring about a reduction in the selling price of the corporation's stock.

After depressing the price, the bankers' agents buy large blocks of the company's stock. Then, if the bank suddenly approves a multi-million dollar loan to the company, the stock rises and is then sold for a profit. In this manner, billions of dollars are made with which to buy more stock. This practice is so refined today that the Federal Reserve Board need only announce to the newspapers an increase or decrease in their "discount rate" to send stocks soaring or crashing at their whim.

Using this method since 1913, the bankers and their agents have purchased secret or open control of almost every large corporation in America. Using this leverage, they then force the corporations to borrow huge sums from their banks so that corporate earnings are siphoned off in the form of interest to the banks. This leaves little as actual "profits" which can be paid as dividends and explains why banks can reap billions in interest from corporate loans even when stock prices are depressed. In effect, the bankers get a huge chunk of the profits, while individual stockholders are left holding the bag.

The millions of working families of America are now indebted to the few thousand banking families for twice the assessed value of the entire United States. And these Banking families obtained that debt against us for the cost of paper, ink, and bookkeeping!

The interest amount is never created

The only way new money (which is not true money, but rather credit representing a debt), goes into circulation in America and almost allover the world, is when it is borrowed from the bankers. When the State and people borrow large sums, we seem to prosper. However, the bankers "create" only the amount of the principal of each loan, never the extra amount needed to pay the interest. Therefore, the new money never equals the new debt added. The amount needed to pay the interest on loans is not "created," and therefore does not exist!

Under this system, where new debt always exceeds new money no matter how much or how little is borrowed, the total debt increasingly outstrips the amount of money available to pay the debt. The people can never, ever get out of debt!

The following example will show the viciousness of this interest-debt system via its "built in" shortage of money.

The Tyranny of Compound Interest

When a citizen goes to a banker to borrow $100,000 to purchase a home or a farm, the bank clerk has the borrower agree to pay back the loan plus interest. At 8.25% interest for 30 years, the borrower must agree to pay $751.27 per month for a total of $270,456.00.

The clerk then requires the citizen to assign to the banker the right of ownership of the property if the borrower does not make the required payments. The bank clerk then gives the borrower a $100,000 check or a $100,000 deposit slip, crediting the borrower's checking account with $100,000.

The borrower then writes checks to the builder, subcontractors, etc. who in turn write checks. $100,000 of new "checkbook" money is thereby added to the "money in circulation."

However, this is the fatal flaw in the system: the only new money created and put into circulation is the amount of the loan, $100,000. The money to pay the interest is NOT created, and therefore was NOT added to "money in circulation."

Even so, this borrower (and those who follow him in ownership of the property) must earn and take out of circulation $270,456.00, $170,456.00 more than he put in circulation when he borrowed the original $100,000! (This interest cheats all families out of nicer homes. It is not that they cannot afford them; it is because the bankers' interest forces them to pay for nearly 3 homes to get one!)

Every new loan puts the same process in operation. Each borrower adds a small sum to the total money supply when he borrows, but the payments on the loan (because of interest) then deduct a much larger sum from the total money supply.

There is therefore no way all debtors can pay off the money lenders. As they pay the principle and interest, the money in circulation disappears. All they can do is struggle against each other, borrowing more and more from the money lenders each generation. The money lenders (bankers), who produce nothing of value, gradually gain a death grip on the land, buildings, and present and future earnings of the whole working population. Proverbs 22:7 has come to pass in America. "The rich rule over the poor, and the borrower is servant to the lender."

Small loans do the same thing

If you have not quite grasped the impact of the above, let us consider an auto loan for 5 years at 9.5% interest. Step 1: Citizen borrows $25,000 and pays it into circulation (it goes to the dealer, factory, miner, etc.) and signs a note agreeing to pay the Bankers a total of $31,503 over 5 years. Step 2: Citizen pays $525.05 per month of his earnings to the Banker. In five years, he will remove from circulation $6,503 more than he put in circulation.

Every loan of banker "created" money (credit) causes the same thing to happen. Since this has happened millions of times since 1913 (and continues today), you can see why America has gone from a prosperous, debt-free nation to a debt-ridden nation where practically every home, farm and business is paying usury-tribute to the bankers.

Checking Up On Cash

In the millions of transactions made each year like those just discussed, little actual currency changes hands, nor is it necessary that it do so.

About 95 percent of all "cash" transactions in the U. S. are executed by check. Consider also that banks must only hold 10 percent of their deposits on site in cash at any given time. This means 90 percent of all deposits, though they may actually be held by the ban, are not present in the form of actual cash currency.

That leaves the banker relatively safe to "create" that so-called "loan" by writing the check or deposit slip not against actual money, but against your promise to pay it back! The cost to him is paper, ink and a few dollars of overhead for each transaction. It is "check kiting" on an enormous scale. The profits increase rapidly, year after year.

The Debt is Spiraling into Infinity

In 1910 the U. S. Federal debt was only $1 billion, or $12.40 per citizen. State and local debts were practically non-existent. By 1920, after only six years of Federal Reserve shenanigans, the Federal debt had jumped to $24 billion, or $228 per person. In 1960 the Federal debt reached $284 billion, or $1,575 per citizen and state and local debts were mushrooming. In 1998 the Federal debt passed $5.5 trillion, or $20,403.90 per every man woman and child and is growing exponentially.

State and local debts are increasing as fast Federal debts. However, they are too cunning to take the title to everything at once. They instead leave us with some "illusion of ownership" so you and your children will continue to work and pay the bankers more of your earnings on

ever increasing debts. The "establishment" has captured our people with their debt-money system as certainly as if they had marched in with a uniformed army.

To grasp the truth that periodic withdrawal of money through interest payments will inexorably transfer all wealth in the nation to the receiver of interest, imagine yourself in a poker or dice game where everyone must buy the chips (the medium of exchange) from a "banker" who does not risk chips in the game. He just watches the table and reaches in every hour to take 10 percent to 15 percent of all the chips on the table. As the game goes on, the amount of chips in the possession of each player will fluctuate according to his luck. However, the total number of chips available to play the game (carry on trade and business) will decrease steadily. As the game starts getting low on chips, some players will run out. If they want to continue to play, they must buy or borrow more chips from the "banker". The "banker" will sell (lend) them only if the player signs a "mortgage" agreeing to give the "Banker" some real property (car, home, farm, business, etc.) if he cannot make periodic payments to pay back all the chips plus some extra chips (interest). The payments must be made on time, whether he wins (makes a profit) or not.

It is easy to see that no matter how skillfully they play, eventually the "banker" will end up with all of his original chips back, and except for the very best players, the rest, if they stay in long enough, will lose to the "banker" their homes, their farms, their businesses, perhaps even their cars, watches, and the shirts off their backs!

Our real life situation is much worse than any poker game. In a poker game no one is forced into debt, and anyone can quit at any time and keep whatever he still has. But in real life, even if we borrow little ourselves from the "bankers," our local, State and Federal governments borrow billions in our name, squander it, then confiscate our earnings via taxation in order to pay off the bankers with interest.

We are forced to play the game, and none can leave except by death. We pay as long as we live, and our children pay after we die. If we cannot or refuse to pay, the government sends the police to take our property and give it to the bankers. The bankers risk nothing in the game; they just collect their percentage and "win it all." In Las Vegas, all games are rigged to pay the owner a percentage, and they rake in millions. The Federal Reserve bankers' "game" is also rigged, and it pays off in billions!

In the past 20 years, Bankers have added some new cards to their deck: credit cards are promoted as a convenience and a great boon to trade. Actually, they are ingenious devices from the seller and 18% interest from buyers. A real "stacked" deck!

Yes, it's political too

Democrat, Republican, and independent voters who have wondered why politicians always spend more tax money than they take in should now see the reason. When they begin to study our money system, they soon realize that these politicians are not the agents of the people but are the agents of the bankers, for whom they plan ways to place the people further in debt.

It takes only a little imagination to see that if Congress had been "creating," spending and issuing into circulation the necessary increase in the money supply, there would be no national debt. Trillions of dollars of other debts would be practically non-existent.

Since there would be no original cost of money except printing, and no continuing costs such as interest, Federal taxes would be almost nil. Money, once in circulation, would remain there and go on serving its purpose as a medium of exchange for generation after generation and century after century, with no payments to the Bankers whatsoever!

Continuing Cycles of Debt and War

But instead of peace and debt-free prosperity, we have ever-mounting debt and cyclical periods of war. We as a people are now ruled by a system of banking influence that has usurped the mantle of government, disguised itself as our legitimate government, and set about to pauperize and control our people.

It is now a centralized, all-powerful political apparatus whose main purposes are promoting war, confiscating the people's money, and propagandizing to perpetuate its power. Our two main political parties have become its servants, the various departments of government have become its spending agencies, and the Internal Revenue Service is its collection agency.

Unknown to the people, it operates in close cooperation with similar apparatuses in other nations, which are also disguised as "governments."

Some, we are told, are friends. Some, we are told, are enemies. "Enemies" are built up through international manipulations and used to frighten the American people into going billions of dollars further into debt to the bankers for "military preparedness," "foreign aid to stop communism," "the drug war," etc.

Citizens, deliberately confused by brainwashing propaganda, watch helplessly while our politicians give food, goods, and money to banker-controlled alien governments under the guise of "better relations" and "easing tensions." Our banker-controlled government takes our finest and bravest sons and sends them into foreign wars where tens of thousands are murdered, and hundreds of thousands are crippled (not to mention collateral damage and casualties among the "enemy" troops.)

When the "war" is over, we have gained nothing, but we are billions of dollars further in debt to the bankers, which was the reason for the "war" in the first place!

And There's More. The profits from these massive debts have been used to erect a complete and, almost hidden, economic colossus, over our nation. They keep telling us they are trying to do us good, when in truth they work to bring harm and injury to our people. These would be despots know, it is easier to control and rob a ill, poorly educated, and confused people, than it is a healthy and intelligent population, so they deliberately prevent real cures for diseases, they degrade our educational systems, and they stir up social and racial unrest. For the same reason, they favor drug use, alcohol, sexual promiscuity, abortion, pornography, and crime. Everything, which debilitates the minds and bodies of the people, is secretly encouraged, as it makes the people less able to oppose them, or, even, to understand what is being done to them.

Family, morals, love of country, all that is honorable, is being swept away, while they try to build their new, subservient man. Our new "rulers" are trying to change our whole racial, social, religious, and political order, but they will not change the debt-money-economic system, by which they rob and rule. Our people have become tenants and "debt-slaves", to the Bankers, and their agents, in the land our fathers conquered. It is conquest through the

most, gigantic fraud and swindle, in the history of mankind. And we remind you again: The key to their wealth and power, over us, is their ability to create "money" out of nothing, and lend it to us, at interest. If they had not been allowed to do that, they would never have gained secret control of our nation. How true Solomon's words are: "The rich ruleth over the poor, and the borrower is servant to the lender ".

Let us, now, consider the correct method of providing the medium of exchange (money) needed by our people.

Every Citizen Can Be a Stock Holder.

Under the Constitutional system, no private banks would exist to rob the people. Government banks under the control of the people's representatives would issue and control all money and credit. They would issue not only actual currency, but could lend limited credit at no interest for the purchase of capital goods, such as homes.

A $100,000 loan would require only $100,000 repayment, not $270,456.00 as it is now. Everyone who supplied materials and labor for the home would get paid just as they do today, but the bankers would not get $170,456.00 in interest. That is why they ridicule and destroy anyone suggesting or proposing an alternative system.

History tells us of debt-free and interest-free money issued by governments. The American colonies did it through colonial script in the 1700's. Their wealth soon rivaled that of England and brought restrictions from Parliament, which led to the Revolutionary War. Abraham Lincoln did it in 1863 to help finance the Civil War. He was later assassinated by a man many consider to have been an agent of the Rothschild Bank. No debt-free or interest-free money has been issued in America since then.

Several Arab nations issue interest free loans to their citizens today. (Now you can understand what all the commotion in the Middle East is all about and why the banker-owned press is brainwashing American citizens to think of all Arabs as terrorists). The Saracen Empire forbade interest on money 1,000 years ago and its wealth outshone even Saxon Europe. Mandarin China issued its own money, interest-free and debt-free. Today, historians and art collectors consider those centuries to be China's time of greatest wealth, culture and peace.

Issuing money which does not have to be paid back in interest leaves the money available to use in the exchange of goods and services and its only continuing cost is replacement as the paper wears out. Money is the paper ticket by which transfers are made and should always be in sufficient quantity to transfer all possible production of the nation to the ultimate consumers. It is as ridiculous for a nation to say to its citizens, "You must consume less because we are short of money," as it would be for an airline to say, "Our planes are flying, but we cannot take you because we are short of tickets".

Citizen Control Currency

Money, issued in such a way, would derive its value in exchange from the fact that it had come from the highest legal source in the nation and would be declared legal to pay all public and private debts.

Issued by a sovereign nation, not in danger of collapse, it would need no gold or silver or other so-called "precious" metals to back it.

As history shows, the stability and responsibility of government issuing it is the deciding factor in the acceptance of that government's currency, not gold, silver, or iron buried in some hole in the ground. Proof is America's currency today. Their gold and silver is practically gone, but the dollar is accepted. But if the government was about to collapse our currency would be worthless.

Under the present system, the extra burden of interest forces workers and businesses to demand more money for the work and goods to pay their ever increasing debts and taxes. This increase in prices and wages is called "inflation." Bankers, politicians and "economists" blame it on everything but the real cause, which is the interest levied on money and debt by the Bankers.

This "inflation" benefits the money-lenders, since it wipes out savings of one generation so they can not finance or help the next generation, who must then borrow from the money-lenders and pay a large part of their life's labor to the usurer.

With an adequate supply of interest-free money, little borrowing would be required and prices would be established by people and goods, not by debts and usury.

Citizen control

If the Congress failed to act, or acted wrongly in the supply of money, the citizens would use the ballot or recall petitions to replace those who prevented correct action with others whom the people believe would pursue a better money policy. Since the creation of money and its issuance in sufficient quantity would be one of the few functions of Congress, the voter could decide on a candidate by his stand on money and other legitimate functions of the Federal government, instead of the diversionary issues which are presented to us today. All other problems, except the nation's defense, would be taken care of in the State, County, or City governments where they are best handled and most easily corrected.

An adequate national defense would be provided by the same citizen-controlled Congress, and there would be no bankers behind the scenes, bribing politicians to spend billions of dollars on overseas military adventures which ultimately serve the schemes of international finance.

Creating a Debt-Free World

With debt-free and interest-free money, there would be no direct confiscatory taxation and our homes would be mortgage-free without approximately $10,000-per-year payments to the bankers. Nor would they get $1000 to $3000 per year from every automobile on our roads.

We would need far fewer financial "help" in the form of "easy payment" plans, "revolving" charge accounts, loans to pay medical or hospital bills, loans to pay taxes, loans to pay for burials, loans to pay loans, nor any of the thousand and one usury bearing loans which now suck the life blood of American families.

Our officials, at all levels of government, would be working for the people instead of devising capers which will place us further in debt to the bankers. We would get out of entangling foreign alliances that have engulfed us in four major wars and scores of minor wars since the Federal Reserve Act was passed.

A debt-free world would leave parents with more time to spend raising their children. The elimination of the interest payments and debt would be the equivalent of a 50 percent raise in

the purchasing power of every worker. This cancellation of interest-based private debts would result in the return to the people of $300 billion yearly in property and wealth that currently goes to banks.

Controlling Public Debate and Opinion

The truth is that this state of affairs, this conspiracy if you like, is as old as Babylon, and even in America it dates far back before the year 1913. Actually, 1913 may be considered the year in which their previous plans came to fruition, opening the way for complete economic conquest of our people. The conspiracy is powerful enough in America to place its agents in positions as newspaper publishers, editors, columnists, church ministers, university presidents, professors, textbook writers, labor union leaders, filmmakers, radio and television commentators, politicians ranging from school board members to U. S. presidents, and many others.

These agents control the information available to the people. They manipulate public opinion, elect whomever they want locally, nationally and even globally, and never expose the crooked money system. They promote school bonds, expensive and detrimental farm programs, "urban renewal," foreign aid, and many other schemes which place the people more deeply in debt to the bankers.

Thoughtful citizens wonder why billions are spent on one program and billions on another which may duplicate it or even nullify it, such as paying some farmers not to raise crops, while at the same time building dams or canals to irrigate more farm land. Crazy or stupid?

Neither. The goal is more debt. Thousands of government-sponsored methods of wasting money go on continually. Most make no sense, but they are never exposed for what they really are: siphons sucking our Nation's economic lifeblood. Billions for the bankers, debts for the people.

Controlled news and information

So-called "economic experts" write syndicated columns in hundreds of newspapers, craftily designed to prevent the people from learning the simple truth about our money system. Sometimes commentators, educators, and politicians blame our financial conundrum on the workers for being wasteful, lazy, or stingy. Other times, they blame workers and consumers for the increase in debts and the inflation of prices, when they know the cause is the debt-money system itself.

The people are literally drowned in charges and counter-charges designed to confuse them and keep them from understanding the unconstitutional and evil money system that is so efficiently and silently robbing the farmers, the workers, and the businessmen of the fruits of their labor and of their freedoms.

Some, who are especially vocal in their exposure of the treason against the people, are harassed by government agencies such as the EPA, OSHA, the IRS, and others, forcing them into financial strain or bankruptcy. They have been completely successful in preventing most citizens from learning the things presented here.

However, in spite of their control of information, they realize many citizens are learning the truth. (There are several millions of Americans who now know the truth including former congressmen, former revenue agents, ministers, businessmen, and many others).

Therefore, to prevent armed resistance to their plunder of America, they plan to register all firearms and eventually to disarm all citizens, in violation of the 2nd Amendment to the Constitution of the United States of America. A people armed cannot be enslaved. Therefore, they only want guns in the hands of their government police or military forces--hands that are already stained with blood from countless acts of gross negligence and overt homicide, both at home and abroad.

The "almost hidden" conspirators in politics, religion, education, entertainment, and the news media are working for the banker-owned United States, in a banker-owned World under a banker-owned World Government! (This is what all the talk of a New World Order promoted by Presidents Bush and Clinton is all about.)

Unfair banking policies and taxes will continue to take a larger and larger part of the annual earning of the people and put them into the pockets of the bankers and their political agents. Increasing government regulations will prevent citizen protest and opposition to their control.

It is possible that your grandchildren will own neither home nor car, but will live in "government owned" apartments and ride to work in "government owned" buses (both paying interest to the bankers), and be allowed to keep just enough of their earnings to buy a minimum of food and clothing while their rulers wallow in luxury. In Asia and Eastern Europe this was called "communism;" in America it is called "Democracy" and "Capitalism."

America will not shake off her Banker-controlled dictatorship as long as the people are ignorant of the hidden controllers. Banking concerns, which control most of the governments of the nations, and most sources of information, seem to have us completely within their grasp. They are afraid of only one thing: an awakened patriotic citizenry, armed with the truth, and with a trust in God for deliverance.

Who do you think it’s the richest person in the world today? Accordingly to Forbes Magazine it is Warren Buffet or Bill Gates or Carlos Slim Helu. Nothing can be further from the truth. The Rothschild’s are the richest by a long shot. This family it’s been calculated to own about 500 trillions dollars. That means much more then all the “Forbes top 500 richest” combined. In fact that wealth represents more then half of the world rich. This single family can house, feed, and dress every single person on this earth. As shocking as it may seem, it is nothing but the truth. All the rest promoted by the mainstream media like Forbes Magazine is just dust in the eyes of people. This concentration of wealth it is unnatural and it is detrimental to human beings. For the moment we can do nothing about it as the opposing forces are just too powerful.

And the Rothschild’s are not the only very rich bankers. They are join by several others banking families from Europe which as well are very rich. But you’ll never see them in the Forbes Magazine any time soon.

The job creators

It is astounding how significantly one idea can shape a society and its policies. Consider this one. If taxes on the rich go up, job creation will go down. This idea is an article of faith for politicians left or right and has indeed shaped much of the economic landscape. But sometimes the ideas that we are certain are true, are dead wrong.

Consider that, for thousands of years humans believed that the earth was the center of the universe. It's not, and an astronomer who still believed that it was, would do some pretty terrible astronomy. Likewise, a policy maker who believes that the rich are "job creators", and therefore should not be taxed, would do equally terrible policy.

We can now say with confidence that rich people don't create jobs, nor do businesses, large or small. Jobs are a consequence of a circle of life-like feedback loop between customers and businesses. And only consumers can set in motion this virtuous cycle of increasing demand and hiring. In this sense, an ordinary consumer is more of a job creator than a capitalist.

That's why when business people take credit for creating jobs; it's a little bit like squirrels taking credit for creating evolution. It's actually the other way around.

Anyone who's ever run a business knows that hiring more people is a course of last resort for capitalists. It's what they do if, and only if, rising customer demand requires it. And in this sense, calling themselves job creators isn't just inaccurate, it's disingenuous.

That's why our existing policies are so upside down. When the biggest tax exemptions and the lowest rates benefit the richest, all in the name of job creation, all that happens is that the rich get richer.

Since 1980, the share of income for the top 1% of Americans has more than tripled, while our effective tax rates have gone down by 50%. If it was true that lower taxes for the rich and more wealth for the wealthy led to job creation, today we would be drowning in jobs. And yet, unemployment and under-employment is at record highs.

Another reason that this idea is so wrong-headed is that, there can never be enough super-rich people to power a great economy. A rich man makes hundreds or thousands as times much as the median American, but they don't buy hundreds or thousands of times as much stuff. They have three-four very expensive cars, not 3,000.

They can't buy enough of anything to make up for the fact that millions of unemployed and under-employed Americans can't buy any new cars, any clothes, or enjoy any meals out. Nor can they make up for the falling consumption of the vast majority of middle-class families that are barely squeaking by, buried by spiraling costs and trapped by stagnant or declining wages.

Here's an incredible fact… that if the typical American family still retained the same share of income that they did in 1970, they'd earn like $45,000 more a year. Imagine what our economy would be like if that were the case.

Significant privileges have come to rich people, the capitalists, for being perceived as "job creators" at the center of the economic universe; and the language and metaphors we use to defend the current economic and social arrangements is telling. It's a small jump from "job creator" to "The Creator". This language obviously wasn't chosen by accident. And it's only honest to admit that when somebody calls themselves a "job creator", they're not just describing how the economy works, but more particularly, they're making a claim on status and privileges that they deserve.

Speaking of special privileges, the extraordinary differential between the 15% tax rate that capitalists pay on carried interest, dividends and capital gains — and the 35% top marginal

rate on work that ordinary Americans pay — it's kind of hard to justify without a touch of deification.

We've had it backwards for the last 30 years. Rich people don't create jobs; jobs are a consequence of an eco-systemic feedback loop between customers and businesses. And when the middle-class thrives, businesses grow and hire — and owners profit.
That's why taxing the rich to pay for investments that benefit all, is such a fantastic deal for the middle-class and the rich.

So, here's another myth busted… In a capitalist economy, the true job creators are middle-class consumers. And taxing the rich to make investments will make the middle-class grow and thrive. It's the single shrewdest thing we can do for the middle-class, for the poor, and for the rich.

Chapter 6: The end of humanity or its rebirth?

The myth of overpopulation

The myth of overpopulation originated in England in 1798, when a vicar called Thomas Malthus who thinks of himself as a good mathematician saw that food production increased incrementally, but peoples increased exponentially. He did some simple math and summarily decided that the world will remain out of food by 1890. He blamed mortality rates, recommending the killing of the "have not" from society. If not, they will starve to death.

This crime was continued by Paul R. Ehrilich from Stanford University in 1968, complaining that reckless reproductions of humans will overwhelmed the earth. Massive famine will result which will destroy in the best case scenario 1/5th from humanity and the planet will follow.

This fear produced large donations from the newly created UNFPA which thrives from an imagined crisis that it was both imminent and re-scheduled again and again over the past two centuries.

The truth of the mater is that every family from this planet could have a house with a yard and all will live together on a landmass the size of Texas; which is really just a small corner of our planet. The population of earth will reach a peak in about 30 years and then will start to go back down. We are not overpopulated; do the math

A stable population

From the time of the cave mans up until today, humanity continues to exist because each population of humans produced another generation to replace itself. Scientists now have figured out how many peoples must be born with each generation to replace the generation before. That number is one person per person.

All things been equal this created a perfect demographic balance. But since womans are the only one who can have children means that every woman must have two children, one to replace her and one to replace the mans who can not have children.

The total fertility rate is the average number of children each woman in the society is having.

This number shows us if the society is growing or is shrinking. In developed countries this rate is about 2.1 children per woman. This will keep the population stable, assuming that every woman is having children and there are no wars, starvation and diseases. In the real world disaster happens all the time and sadly not every children reach adulthood, especially in the poor countries. This push's their replacement rate at over 3.3 childrens per woman.

Since not every woman want to have children; and in order to keep the population stable, some woman must have more then 2.1 children to balance the birth rate with the womans who have only one or no children at all. Maintaining this balance it's extremely important. If society it's not replacing it self with every generation, human population will begin to fall exponentially.

Economics and social problems appear, as the elderly retires and their number exceeds the number of young peoples who works to insure the retire funds. This is already happening all over the developed countries. Many of the world nations are only barely replace their

populations while the majority have birth rates below replacements. Some countries have 1.8 or even 1.2 babies per woman (Japan). Many societies are facing a very real danger: extinction!

Food – There's lots of it.

According to believers in the overpopulation, there are so many of us on the planet that food production can not possibly to keep up. However, according to both Food and Agricultural Organization (FAO) and the World Food Programme (WFP), there is currently enough food on the planet for everyone to be well fed. Not only that, but we grow food onto less land then we did in the past. This is why in the USA, for example, the government affords to pay farmers NOT to grow food but instead to return the land to the wild life.

Modern technology also allows us to grow food in places where in the past would it been impossible to do so. Agricultural experts even believe that if Africa is cultivated using modern farming technology will eventually feed the whole world by itself.

Then why are peoples allowing the world to starve? The WFP lists some key causes, who lead to hunger and overpopulation it's not on that list, but: poverty, wars, natural disasters, over-exploitation of the environment and poor agricultural infrastructure.

War is one of the leading causes of world hunger by destroying crops and disrupts the help efforts. Wide spread poverty prevents many from buying the food that they need. Lacks of infrastructure mean that there aren't safe methods to transport food in area needed. This is why reducing the number of hunger peoples will not make the remaining peoples less hungry. Those who have access to the food will continue to have access to it, and those who don't will still be hungry. Reducing population will not magically spread food around equally.

Blaming overpopulation for everything will only distract us from the real problems that we actually have.

Poverty – Where we all started.

When human being first appear on this planet there were not many of us. And we faced a hard life of meeting our basic needs. Early humans spent a good deal of time being hunger, could and without shelters. That means poor.

According to the World Bank poverty is when people are deprive of well being as a result of low incomes and the inability to acquire the basic goods and services necessary for survival with dignity.

How then did any of the human race advanced beyond poverty? We kept multiply and formed communities. In communities peoples stop spend time just with survival and start do things like: divide tasks, sharing resources and put their mental energies to find creative solutions to their problems. These communities started the families, then grew into extended families, tribes, towns and nations.

So, what effect this grows has on poverty? According to demographers, a very good one. In fact history shows that as our number grow so is our average standard of living. Scientist measures this standard of living from income per capita to the number of burned calories. All this averages has been increasing. Even that poverty is still increasing; the percentage of poor peoples has actually decreased as population has grown.

The reason for this is that human beings are not just simple consumers but also producers. This is why over the ages we learned how to do things like: grow more food using less land, find better energy sources and make sure that more peoples have enough to eat and a roof over their heads. This is also why the urban poverty it's still a huge problem. Statistics show that the poor who moves to large communities actually have better chances and many opportunities to rise from poverty then they did in the areas with fewer jobs and less opportunities.

From this reason poverty is a problem that it is not solved by eliminating peoples. Poverty is always been a problem; even when it was very few peoples on the entirely planet. Peoples are the only proven way to get out of poverty. Removing them will only leave the poor in the same situation.

7 billion peoples

There are now 7 billion peoples on the planet; more peoples then in all of recorded history.

While some welcomes new members of community with excitement, others meet them with fear. When people find out that we adding one billion people with every passing 15 years they start to panic and thinks that we will never stop growing. This is false.

Adding one billion people it will not represent a higher percentage because one billion people actually represent a smaller quantity in the total. So, basically the grow rate is slowing. For the rate to remain constant the whole population must be doubled with every passing 15 years (7 billion becomes 14 billions in 15 years and we know that this is not the case).

In 1804 human population reaches one billion. By 1927 the number doubled to two billion peoples; but in 1960 that number rise by half to three billion peoples. By 1975 it was only grow with one third; then with one fourth; then with one fifth when it reached 7 billions.

To see how the growing population it's slowing down we will look at a number called global total fertility rate, which is the average number of children each woman is having. In the last 40 years this rate is rapidly falling. The world will reach a maximum in about 20-25 years when we will have about 9.5 billion peoples. After that it will start to go down. Close to 2100 we'll lose one billion people and we will continue to lose one billion people with each passing 20 years.

Prioritizing problems.

What are the big problems in the world? Bottom line is there are a lot of problems out there in the world. I'm just going to list some of them. There are 800 million people starving. There are a billion people without clean drinking water. Two billion people without sanitation. There are several million people dying of HIV and AIDS. The lists go on and on. There are two billions of people who will be severely affected by climate change, so on. There are many, many problems out there.

In an ideal world, we would solve them all, but we do not have an ideal world. We don't actually solve all problems. And if we do not, the question is which ones should we solve first? If we had say, 50 billion dollars over the next four years to spend to do good in this world, where should we spend it? This are 10 of the biggest challenges in the world: climate change, communicable diseases, conflicts, education, financial instability, governance and corruption, malnutrition and hunger, population migration, sanitation and water, and subsidies

and trade barriers. These in many ways encompass the biggest problems in the world. Where should we start on solving these problems? But that's a wrong problem to ask. That was actually the problem that was asked in Davos.

The point is not to prioritize problems, but the point is to prioritize solutions to problems. To climate change that would be like Kyoto. To communicable diseases, it might be health clinics or mosquito nets. To conflicts, it would be U.N.'s peacekeeping forces, and so on.

The amazing part of this process is how do we actually prioritize? But, why on Earth was such a list never done before? And one reason is that prioritization is incredibly uncomfortable. Nobody wants to do this. We've had the U.N. for almost 60 years, yet we've never actually made a fundamental list of all the big things that we can do in the world, and said, which of them should we do first? So it doesn't mean that we are not prioritizing -- any decision is a prioritization, so of course we are still prioritizing, if only implicitly -- and that's unlikely to be as good as if we actually did the prioritization, and went in and talked about it.

For a very long time, we've had a menu of choices. There are many, many things we can do out there, but we've not had the prices, nor the sizes. We have not had an idea. Imagine going into a restaurant and getting this big menu card, but you have no idea what the price is. You know, you have a pizza; you've no idea what the price is. It could be at one dollar; it could be 1,000 dollars. It could be a family-size pizza; it could be a very individual-size pizza.

And that is what the Copenhagen Consensus is really trying to do -- to try to put prices on these issues. And so basically, this has been the Copenhagen Consensus' process. We got 30 of the world's best economists, three in each area. So we have three of world's top economists write about climate change. What can we do? What will be the cost and what will be the benefit of that? Likewise in communicable diseases. Three of the world's top experts saying, what can we do? What would be the price? What should we do about it, and what will be the outcome? And so on.

Then we had some of the world's top economists, eight of the world's top economists, including three Nobel Laureates, meet in Copenhagen in May 2004. We called them the "dream team." The Cambridge University prefects decided to call them the Real Madrid of economics. And what they basically did was come out with a prioritized list. And then you ask, why economists? The point is, of course, if you want to know about malaria, you ask a malaria expert. If you want to know about climate, you ask a climatologist. But if you want to know which of the two you should deal with first, you can't ask either of them, because that's not what they do. That is what economists do. They prioritize. They make that in some ways disgusting task of saying, which one should we do first, and which one should we do afterwards?

They basically came up with a list where they said there were bad projects -- basically, projects where if you invest a dollar, you get less than a dollar back. Then there's fair projects, good projects and very good projects. And of course, it's the very good projects we should start doing.

The reason why they came up with saying that Kyoto is a bad deal is simply because it's very inefficient. It's not saying that global warming is not happening. It's not saying that it's not a big problem. But it's saying that what we can do about it is very little, at a very high cost. What they basically show us, the average of all macroeconomic models, is that Kyoto, if everyone agreed, would cost about 150 billion dollars a year. That's a substantial amount of

money. That's two to three times the global development aid that we give the Third World every year. Yet it would do very little good. All models show it will postpone warming for about six years in 2100. So the guy in Bangladesh who gets a flood in 2100 can wait until 2106. Which is a little good, but not very much good. So the idea here really is to say, well, we've spent a lot of money doing a little good.

And just to give you a sense of reference, the U.N. actually estimate that for half that amount, for about 75 billion dollars a year, we could solve all major basic problems in the world. We could give clean drinking water, sanitation, basic healthcare and education to every single human being on the planet. So we have to ask ourselves, do we want to spend twice the amount on doing very little good? Or half the amount on doing an amazing amount of good? And that is really why it becomes a bad project. It's not to say that if we had all the money in the world, we wouldn't want to do it. But it's to say, when we don't, it's just simply not our first priority.

The fair projects communicable diseases, scale of basic health services -- just made it, simply because, yes, scale of basic health services is a great thing. It would do a lot of good, but it's also very, very costly. Again, what it tells us is suddenly we start thinking about both sides of the equation. If you look at the good projects, a lot of sanitation and water projects came in. Again, sanitation and water is incredibly important, but it also costs a lot of infrastructure. So I'd like to show you the top four priorities which should be at least the first ones that we deal with when we talk about how we should deal with the problems in the world.

The fourth best problem is malaria, dealing with malaria. The incidence of malaria is about a couple of million people getting infected every year. It might even cost up towards a percentage point of GDP every year for affected nations. If we invested about 13 billion dollars over the next four years, we could bring that incidence down to half. We could avoid about 500,000 people dying, but perhaps more importantly, we could avoid about a million people getting infected every year. We would significantly increase their ability to deal with many of the other problems that they have to deal with -- of course, in the long run, also to deal with global warming.

This third best one was free trade. Basically, the model showed that if we could get free trade, and especially cut subsidies in the U.S. and Europe, we could basically enliven the global economy to an astounding number of about 2,400 billion dollars a year, half of which would accrue to the Third World. Again, the point is to say that we could actually pull two to three hundred million people out of poverty, very radically fast, in about two to five years. That would be the third best thing we could do.

The second best thing would be to focus on malnutrition. Not just malnutrition in general, but there's a very cheap way of dealing with malnutrition, namely, the lack of micronutrients. Basically, about half of the world's population is lacking in iron, zinc, iodine and vitamin A. If we invest about 12 billion dollars, we could make a severe inroad into that problem. That would be the second best investment that we could do.

And the very best project would be to focus on HIV/AIDS. Basically, if we invest 27 billion dollars over the next eight years, we could avoid 28 new million cases of HIV/AIDS. Again, what this does and what it focuses on is saying there are two very different ways that we can deal with HIV/AIDS. One is treatment; the other one is prevention. And again, in an ideal world, we would do both. But in a world where we don't do either, or don't do it very well, we have to at least ask ourselves where we should invest first. And treatment is much, much more

expensive than prevention. So basically, what this focuses on is saying, we can do a lot more by investing in prevention. Basically for the amount of money that we spend, we can do X amount of good in treatment, and 10 times as much good in prevention. So again, what we focus on is prevention rather than treatment, at first rate.

What this really does is that it makes us think about our priorities. We should also do climate change, if for no other reason, simply because it's such a big problem. But of course, we don't do all problems. There are many problems out there in the world. And what I want to make sure of is, if we actually focus on problems, which we focus on the right ones. The ones where we can do a lot of good rather than a little good. One of things that people forget is that in 100 years, when we're talking about most of the climate change impacts will be, people will be much, much richer. Even the most pessimistic impact scenarios of the U.N. estimate that the average person in the developing world in 2100 will be about as rich as we are today. Much more likely, they will be two to four times richer than we are. And of course, we'll be even richer than that.

But the point is to say, when we talk about saving people, or helping people in Bangladesh in 2100, we're not talking about a poor Bangladeshi. We're actually talking about a fairly rich Dutch guy. And so the real point, of course, is to say, do we want to spend a lot of money helping a little, 100 years from now, a fairly rich Dutch guy? Or do we want to help real poor people, right now, in Bangladesh, who really need the help, and whom we can help very, very cheaply? Or, imagine if you were a rich Chinese, a rich Bolivian, a rich Congolese, in 2100, thinking back on 2005, and saying, "How odd that they cared so much about helping me a little bit through climate change, and cared so fairly little about helping my grandfather and my great grandfather, whom they could have helped so much more, and who needed the help so much more?"

So I think that really does tell us why it is we need to get our priorities straight. Even if it doesn't accord to the typical way we see this problem. The Copenhagen Consensus and the whole discussion of priorities as a defense for boring problems was to make sure that we realize it's not about making us feel good. It's not about making things that have the most media attention, but it's about making places where we can actually do the most good.

The other objections, is that we are somehow positing a false choice. In 1970, the developed world decided we were going to spend twice as much as we did, right now, than in 1970, on the developing world. Since then our aid has halved. So it doesn't look like we're actually on the path of suddenly solving all big problems. You know, when you ask the world's best economists, you inevitably end up asking old, white American men. And they're not necessarily, you know, great ways of looking at the entire world.

The Copenhagen Consensus is a process. We did it in 2004, and we hope to assemble many more people, getting much better information for 2008, 2012. Map out the right path for the world -- but also to start thinking about political triage. To start thinking about saying, "Let's do not the things where we can do very little at a very high cost, not the things that we don't know how to do, but let's do the great things where we can do an enormous amount of good, at very low cost, right now."

At the end of the day, you can disagree with the discussion of how we actually prioritize these, but we have to be honest and frank about saying, if there are some things we do, there are other things we don't do. If we worry too much about some things, we end by not worrying about other things.

A world of abundance

The news media preferentially feeds us negative stories because that's what our minds pay attention to. And there's a very good reason for that. Every second of every day, our senses bring in way too much data than we can possibly process in our brains.

And because nothing is more important to us than survival, the first stop of all of that data is an ancient sliver of the temporal lobe called the amygdala. Now the amygdala is our early warning detector, our danger detector. It sorts and scours through all of the information looking for anything in the environment that might harm us. So given a dozen news stories, we will preferentially look at the negative news. And that old newspaper saying, "If it bleeds it leads," is very true. So given all of our digital devices that are bringing all the negative news to us seven days a week, 24 hours a day, it's no wonder that we're pessimistic. It's no wonder that people think that the world is getting worse.

But perhaps that's not the case. Perhaps instead, it's the distortions brought to us of what's really going on. Perhaps the tremendous progress we've made over the last century by a series of forces are, in fact, accelerating to a point that we have the potential in the next three decades to create a world of abundance. We do have our set of problems, climate crisis, species extinction, water and energy shortage. And as humans, we are far better at seeing the problems way in advance, but ultimately we knock them down.

So let's look at what this last century has been to see where we're going. Over the last hundred years, the average human lifespan has more than doubled; average per capita income adjusted for inflation around the world has tripled. Childhood mortality has come down a factor of 10. Add to that the cost of food, electricity, transportation, communication have dropped 10 to 1,000-fold. Steve Pinker has showed us that, in fact, we're living during the most peaceful time ever in human history. And Charles Kenny that global literacy has gone from 25 percent to over 80 percent in the last 130 years. We truly are living in an extraordinary time. And many people forget this.

And we keep setting our expectations higher and higher. In fact, we redefine what poverty means. Think of this, in America today, the majority of people under the poverty line still have electricity, water, toilets, refrigerators, television, mobile phones, air conditioning and cars. The wealthiest robber barons of the last century, the emperors on this planet, could have never dreamed of such luxuries.

Underpinning much of this is technology, and of late, exponentially growing technologies. Ray Kurzweil showed that any tool that becomes an information technology jumps on this curve, on Moore's Law, and experiences price performance doubling every 12 to 24 months. That's why the cell phone in your pocket is literally a million times cheaper and a thousand times faster than a supercomputer of the '70s. This is the result of faster computers being used to build faster computers. The rate at which the technology is getting faster is itself getting faster.

Riding on Moore's Law, are a set of extraordinarily powerful technologies available to all of us. Cloud computing, also call infinite computing; sensors and networks; robotics; 3D printing, which is the ability to democratize and distribute personalized production around the planet; synthetic biology; fuels, vaccines and foods; digital medicine; nanomaterials; and A.I.

When I think about creating abundance, it's not about creating a life of luxury for everybody on this planet; it's about creating a life of possibility. It is about taking that which was scarce and making it abundant. You see, scarcity is contextual, and technology is a resource-liberating force. Let me give you an example. This is a story of Napoleon III in the mid-1800s. He invited over to dinner the king of Siam. All of Napoleon's troops were fed with silver utensils, Napoleon himself with gold utensils. But the King of Siam, he was fed with aluminum utensils. You see, aluminum was the most valuable metal on the planet, worth more than gold and platinum. It's the reason that the tip of the Washington Monument is made of aluminum. You see, even though aluminum is 8.3 percent of the Earth by mass, it doesn't come as a pure metal. It's all bound by oxygen and silicates. But then the technology of electrolysis came along and literally made aluminum so cheap that we use it with throw-away mentality.

So let's project this analogy going forward. We think about energy scarcity. But we are on a planet that is bathed with 5,000 times more energy than we use in a year. 16 terawatts of energy hits the Earth's surface every 88 minutes. It's not about being scarce, it's about accessibility. And there's good news here. For the first time, this year the cost of solar-generated electricity is 50 percent that of diesel-generated electricity in India -- 8.8 rupees versus 17 rupees. The cost of solar dropped 50 percent last year. Last month, MIT put out a study showing that by the end of this decade, in the sunny parts of the United States, solar electricity will be six cents a kilowatt hour compared to 15 cents as a national average.

And if we have abundant energy, we also have abundant water. Now we talk about water wars. We live on a planet 70 percent covered by water. Yes, 97.5 percent is saltwater, two percent is ice, and we fight over a half a percent of the water on this planet, but here too there is hope. And there is technology coming online, not 10, 20 years from now, right now. There's nanotechnology coming on, nanomaterials.

Today we have Dean Kamen's technology called Slingshot; it is the size of a small dorm room refrigerator. It's able to generate a thousand liters of clean drinking water a day out of any source -- saltwater, polluted water, latrine -- at less than two cents a liter. The chairman of Coca-Cola has just agreed to do a major test of hundreds of units of this in the developing world. And if that pans out, Coca-Cola will deploy this globally to 206 countries around the planet. This is the kind of innovation, empowered by this technology that exists today.

And we've seen this in cell phones. My goodness, we're going to hit 70 percent penetration of cell phones in the developing world by the end of 2013. Think about it, that a Masai warrior on a cell phone in the middle of Kenya has better mobile comm than President Reagan did 25 years ago. And if they're on a smart phone on Google, they've got access to more knowledge and information than President Clinton did 15 years ago. They're living in a world of information and communication abundance that no one could have ever predicted. Better than that, the things that you and I spent tens and hundreds of thousands of dollars for -- GPS, HD video and still images, libraries of books and music, medical diagnostic technology -- are now literally dematerializing and demonetizing into your cell phone.

But here, here is the biggest force for bringing about a world of abundance. I call it the rising billion. We just passed the seven billion mark on Earth. And by the way, the biggest protection against a population explosion is making the world educated and healthy. In 2010, we had just short of two billion people online, connected. By 2020, that's going from two billion to five billion Internet users. Three billion new minds who have never been heard from before are connecting to the global conversation. What will these people want? What will they

consume? What will they desire? And rather than having economic shutdown, we're about to have the biggest economic injection ever. These people represent tens of trillions of dollars injected into the global economy. And they will get healthier, and they'll become better educated by using the Khan Academy, and by literally being able to use 3D printing and infinite computing become more productive than ever before.

So what could three billion rising, healthy, educated, productive members of humanity bring to us? How about a set of voices that have never been heard from before. What about giving the oppressed, wherever they might be, the voice to be heard and the voice to act for the first time ever? What will these three billion people bring? What about contributions we can't even predict? It's a fact that small teams driven by their passion with a clear focus can do extraordinary things, things that large corporations and governments could only do in the past.

There is a program, a game called Foldit. It came out of the University of Washington in Seattle. And this is a game where individuals can actually take a sequence of amino acids and figure out how the protein is going to fold. And how it folds dictates its structure and its functionality. And it's very important for research in medicine. And up until now, it's been a supercomputer problem.

And this game has been played by university professors and so forth. And it's literally; hundreds of thousands of people came online and started playing it. And it showed that, in fact, today, the human pattern recognition machinery is better at folding proteins than the best computers. And when these individuals went and looked at who was the best protein folder in the world, it wasn't an MIT professor, it wasn't a CalTech student, it was a person from England, from Manchester, a woman who, during the day, was an executive assistant at a rehab clinic and, at night, was the world's best protein folder.

What gives me confidence in the future is the fact that we are now more empowered as individuals to take on the grand challenges of this planet. We have the tools with this exponential technology. We have the passion of the DIY innovator. We have the capital of the techno-philanthropist. And we have three billion new minds coming online to work with us to solve the grand challenges, to do that which we must do.

Global population growth

Back in the 1960's in the industrialized world, we had one billion people. In the developing world, there are two billion people. And they lived away then. There was a big gap between the one billion in the industrialized world and the two billion in the developing world. In the industrialized world, people were healthy, educated, rich, and they had small families. And their aspiration was to buy a car. And in 1960, all Swedes were saving to try to buy a Volvo. This was the economic level at which Sweden was. But in contrast to this, in the developing world, far away, the aspiration of the average family there was to have food for the day. They were saving to be able to buy a pair of shoes. There was an enormous gap in the. And this gap between the West and the rest has created a mindset of the world, which we still use linguistically when we talk about "the West" and "the Developing World." Basically we can summarize that Western world has long life and small family, and Third World has short life and large family. But the world has changed, and it's overdue to upgrade that mindset and that taxonomy of the world, and to understand it.

Since 1960 what has happened in the world up to 2012 is that a staggering four billion people have been added to the world population. And of course, there's been economic growth in the

West. A lot of companies have happened to grow the economy, so the Western population moved over to here. And now their aspiration is not only to have a car. Now they want to have a holiday on a very remote destination and they want to fly. And the most successful of the developing countries, they have moved on, you know, and they have become emerging economies. They are now buying cars. And what happened was that the Chinese company, Geely, they acquired the Volvo company, and then finally the Swedes understood that something big had happened in the world.

And the tragedy is that the two billion that is struggling for food and shoes, they are still almost as poor as they were 50 years ago. The new thing is that we have three billions, which are also becoming emerging economies, because they are quite healthy, relatively well-educated, and they already also have two to three children per woman. And their aspiration now is, of course, to buy a bicycle, and then later on they would like to have a motorbike also. But the distance from the poorest, the very poorest, to the very richest is wider than ever. But there is a continuous world from walking, biking, driving, flying -- there are people on all levels, and most people tend to be somewhere in the middle. This is the new world we have today in 2012.

What will happen in the future? What's happening in China, and it's pretty sure that they will catch up, just as Japan did.

So what about the poorest two billion? Will they move on? Well, here population growth comes in because there among emerging economies we already have two to three children per woman, family planning is widely used, and population growth is coming to an end. Here among the poorest, population is growing. So these poorest two billion will, in the next decades, increase to three billion, and they will thereafter increase to four billion. There is nothing -- but a nuclear war of a kind we've never seen -- that can stop this growth from happening. Because we already have this growth in process. But if, and only if, the poorest get out of poverty, they get education, they get improved child survival, they can buy a bicycle and a cell phone, then population growth will stop in 2050. We cannot have people on this level looking for food and shoes because then we get continued population growth.

As the years pass by, child survival is increasing. They get soap, hygiene, education, vaccination, penicillin and then family planning. Family size is decreasing. When they get up to 90-percent child survival, then families decrease, and most of the Arab countries in the Middle East is falling down to small families. Bangladesh is catching up with India. The whole emerging world joins the Western world with good child survival and small family size, but we still have the poorest billion. And they still have a child survival of only 70 to 80 percent, meaning that if you have six children born, there will be at least four who survive to the next generation. And the population will double in one generation.

So the only way of really getting world population growth to stop is to continue to improve child survival to 90 percent. That's why investments by Gates Foundation, UNICEF and aid organizations, together with national government in the poorest countries, are so good; because they are actually helping us to reach a sustainable population size of the world. We can stop at nine billion if we do the right things. Child survival is the new green. It's only by child survival that we will stop population growth. And will it happen? It can be done. We can have a much more just world. With green technology and with investments to alleviate poverty, and global governance, the world can be saved. The role of the old West in the new world is to become the foundation of the modern world - nothing more, nothing less.

The End of Work

Politicians often like to blame outsourcing for the disappearance of jobs. But in reality the work isn't going to the Chinese, it's going to the robots. In Western Europe, thousands of jobs have been eliminated as companies move their production facilities abroad. In many cases, the jobs are only temporarily being relocated to the Czech Republic or Poland. But these debates conveniently avoid the real problem: jobs aren't just being outsourced to lower-wage nations they're being replaced by automation. They're afraid to have the real conversation. These jobs are never coming back. What you'll hear from politicians is that they're being outsourced, we're losing our jobs to cheaper labor markets - be it in Eastern Europe, China or wherever. So outsourcing is the problem. If you're a Christian Democrat or center-right, you'll say, if you elect us we'll create an unfettered American-style market economy so that we can be globally competitive and you'll have jobs. If you're center left, you'll say, we'll make sure to protect your interests against unfair trade practices, so you'll have a playing field that's competitive. But the reality is this: Neither will bring jobs back.

Outsourcing counts for about 5 percent or less of the jobs that are disappearing. And the jobs are disappearing all over the world, in Europe, in Asia, in South and North America, everywhere. They're disappearing because we're seeing a great change in the nature of work and the politicians don't want to discuss it because they don't know how. The fact is that we're ending mass wage labor. This is what's going on with all the companies

The last great structural shift in labor occurred at the beginning of the industrial revolution. We ended slave labor and that was a great structural shift. For 10,000 years people held each other as slaves. From an economic point of view, it became cheaper to feed coal to the steam engine than to feed the mouth of a slave. The new high-tech revolutions of the 21st century end mass wage labor, meaning the cheapest worker in the world is more expensive than the intelligent technology coming online to replace them.

A lot of politicians in Europe and America say, gee, the jobs are going to China, if only we could get the manufacturing jobs back, we would have jobs. What they don't know is that China has eliminated 15 percent of all its factory workers in seven years. Forever. They don't exist. This is the story no one wants to talk about: the cheapest Chinese workers, and they're pretty cheap, are not as cheap as the intelligent technology replacing them. Fourteen percent of all the factory workers in the whole world have disappeared in the last seven years. At this current projected rate, even if you don't, increase the intelligent technology (in other words, let's say there's no Moore's Law here) and things just keep going as they are, then you end mass factory labor within 30 years.

The old idea is, okay, this has always happened in history. We can deal with it. Everybody used to be on the farm, then it automated with machinery and they went to the factories. Then in the 1970s and 80s the factories were automating, so we went to the service industries. The intelligent technologies are penetrating just as quickly now into the service industry as they are in the factories, banking, financing, wholesale or retail trade. You can go to the grocery store and as soon as you take the products off the shelf, they're automatically accounted for and you can check out without a cashier. Where are the telephone operators or librarians or bank tellers, the middle managers, the secretaries? The traditional jobs are all going.

Yet what a politician or economist will say is well, maybe that's true, but its creative destruction. We always create new ideas, new jobs and new products that we never before imagined. They would say we are going to create new types of jobs: analysts, consultants,

programmers, engineers, educators and technicians. The problem with that premise is that no business believes that these kinds of jobs will absorb the workforce of the world. We will create all sorts of new jobs, we'll create new skills and we'll create new technologies. But these new high-tech specialists and professional jobs are not mass labor, they're boutique. You're never going to see mass workers in software companies, nanotech companies and biotech companies. They don't exist. The new workforce is a specialized professional one. So it's not just in the factories where we are moving to pure automation, or in the service industries. It's happening in professional and conceptual categories, too, like architecture, law and accounting where you need the best and brightest talent, but you don't need the garden variety professionals. Politicians don't want to talk about it because they fear they will scare away voters. But they have to talk about it because if they don't they will engender more cynicism when the problem becomes more apparent to people.

Mass labor is disappearing forever.

Even if you retrained the entire workforce of Europe so that they would be qualified for these high-tech jobs, there would never be enough work in this sector to absorb mass labor. That's true all over the world. If you listen to the center left, then all you have to do is protect people against unfair competition. But that's no answer given that these jobs are disappearing forever. For years we've known this was coming. In the 1960s, there was a debate in the United States about whether increased automation would destroy work. Norbert Wiener, who was the father of cybernetics and was responsible for the communication revolution and warned that developments in communications technologies could end mass wage labor. He pleaded for a global conversation around the implications of automation to the future of society. But he was premature. John F. Kennedy was about to set up a commission, but then he was assassinated. President Lyndon B. Johnson did set up a commission, but then the war intervened and it created a lot of jobs, at least temporarily.

It took some time before automation began in earnest, so the issue died for many years and even now the 'debate isn't really happening. But the automation is here now. The intelligent technologies emerging as we move towards grid computing, parallel computing and then perhaps even quantum computing are breathtaking. No high ranking CEO believes that there are going to be hundreds of millions of people working side by side with machines in 50 or 75 years from now.

This has enormous implications for a manufacturing-rich country like Germany. But German politician aren't even having the conversation. There are strategies Europe can follow in order to preserve work in the short, middle and long term.

In the short term, you have to radically increase productivity. But as you increase productivity, you can drop the number of hours worked each week and share the work among more people. But you must have both - a shorter work week can't come in lieu of productivity.

Towards a shorter working week

It is unrealistic to believe that a reduction in work hours, alone, would be the only change necessary to resolve the bigger question of the end of work. What we know from industrial history is this: when productivity rises, you have two choices: you either reduce the work week or you reduce the work force. If we still had a 70 hour work week, then very few people would be working in the world. Instead of one person working 70 hours, two people can work 35 hours. So at each stage in the industrial revolution, as you increase productivity with new

technologies, you can organize labor demands for a shorter work week. If you assume that the new IT technologies, biotechnologies, and nanotechnologies and all these other technologies will be at least as productive as steam power and the internal combustion engine, then you can roughly estimate the impact this will have on the working week. If we went from A 70 hour work week down to a 40-hour work week in a period of about 100 years, then we could certainly go from 40 hours down to 20 hours in the next 50.

One major problem of the 35-hour work week was that it didn't have enough flexibility built in it. There should have been more incentives for people to work fewer hours. The shorter work week is not a radical departure, historically. Rather, it is the traditional way you deal with increased productivity. Ultimately, we have to explore bold new approaches to addressing the problems created by the phenomenon of the disappearance of mass labor.

Our last century

If you take 10,000 people at random, 9,999 have something in common: their interests in business lie on or near the Earth's surface. A fact came out of MIT, that of the 6,000 languages spoken on Earth right now, 3,000 aren't spoken by the children. So that in one generation, we're going to halve our cultural diversity. He went on to say that every two weeks, an elder goes to the grave carrying the last spoken word of that culture. So an entire philosophy, a body of knowledge about the natural world that had been empirically gleaned over centuries, goes away. And this happens every two weeks.

We want to understand the very complex facts, and the most complex things are ourselves, midway between atoms and stars. We depend on stars to make the atoms we're made of. We depend on chemistry to determine our complex structure. We clearly have to be large, compared to atoms, to have layer upon layer of complex structure. We clearly have to be small, compared to stars and planets -- otherwise we'd be crushed by gravity. And in fact, we are midway. It would take as many human bodies to make up the sun as there are atoms in each of us. The geometric mean of the mass of a proton and the mass of the sun is 50 kilograms, within a factor of two of the mass of each person. The science of complexity is probably the greatest challenge of all, greater than that of the very and the very large. And it's this science, which is not only enlightening our understanding of the biological world, but also transforming our world faster than ever. And more than that, it's engendering new kinds of change.

In this century, not only has science changed the world faster than ever, but in new and different ways. Targeted drugs, genetic modification, artificial intelligence, perhaps even implants into our brains, may change human beings themselves. And human being, their physique and character, has not changed for thousands of years. It may change this century. It's new in our history. And the human impact on the global environment -- greenhouse warming, mass extinctions and so forth -- is unprecedented, too. And so, this makes this coming century a challenge. Bio and cyber-technologies are environmentally benign in that they offer marvelous prospects, while, nonetheless, reducing pressure on energy and resources. But they will have a dark side. In our interconnected world, novel technology could empower just one fanatic, or some weirdo with a mindset of those who now design computer viruses, to trigger some kind on disaster. Indeed, catastrophe could arise simply from technical misadventure -- error rather than terror. And even a tiny probability of catastrophe is unacceptable when the downside could be of global consequence.

We need not just campaigning physicists, but we need biologists, computer experts and environmentalists as well. And I think academics and independent entrepreneurs have a special obligation because they have more freedom than those in government service, or company employees subject to commercial pressure. The stupendous time spans of the evolutionary past are now part of common culture but most people, even those who are familiar with evolution, aren't mindful that even more time lies ahead.

The sun has been shining for four and a half billion years, but it'll be another six billion years before its fuel runs out. If you represent the Earth's lifetime by a single year, say from January when it was made to December, the 21st-century would be a quarter of a second in June -- a tiny fraction of the year. But even in this concertinaed cosmic perspective, our century is very, very special, the first when humans can change themselves and their home planet.

Over nearly all that immense time, Earth's appearance would have changed very gradually. The only abrupt worldwide change would have been major asteroid impacts or volcanic super-eruptions. Apart from those brief traumas, nothing happens suddenly.

The continental landmasses drifted around. Ice cover waxed and waned. Successions of new species emerged, evolved and became extinct. But in just a tiny sliver of the Earth's history, the last one-millionth part, a few thousand years, the patterns of vegetation altered much faster than before. This signaled the start of agriculture. Change has accelerated as human populations rose. Then other things happened even more abruptly. Within just 50 years -- that's one hundredth of one millionth of the Earth's age -- the amount of carbon dioxide in the atmosphere started to rise, and ominously fast.

The planet became an intense emitter of radio waves -- the total output from all TV and cell phones and radar transmissions. And something else happened. Metallic objects -- albeit very small ones, a few tons at most -- escaped into orbit around the Earth. Some journeyed to the moons and planets.

Whatever happens in this uniquely crucial century will resonate into the remote future and perhaps far beyond the Earth.

Our biggest problems.

Which are the three biggest problems for humanity? It seems that there's not just one person who thinks that these problems are important.

The first is death. If you look at the statistics, the odds are not very favorable to us. So far, most people who have lived have also died. Roughly 90 percent of everybody who has been alive has died by now. So the daily death rate -- 150,000 people per day, which is a huge number by any standard. The annual death rate, then, becomes 56 million. If we just look at the single, biggest cause of death -- aging -- it accounts for roughly two-thirds of all human people who die. That adds up to an annual death toll of greater than the population of Canada. Sometimes, we don't see a problem because either it's too familiar or it's too big. Can't see it because it's too big. I think death might be both too familiar and too big for most people to see it as a problem.

Existential risk - the second big problem. Existential risk is a threat to human survival, or to the long-term potential of our species.

The probability that we will fail to survive the current century: 50 percent. Now, if we think about what just reducing the probability of human extinction by just one percentage point -- not very much -- so that's equivalent to 60 million lives saved, if we just count the currently living people, the current generation. Now one percent of six billion people is equivalent to 60 million. So that's a large number. If we were to take into account future generations that will never come into existence if we blow ourselves up, then the figure becomes astronomical. If we could eventually colonize a chunk of the universe -- the Virgo supercluster -- maybe it will take us 100 million years to get there, but if we go extinct we never will. Then, even a one percentage point reduction in the extinction risk could be equivalent to this astronomical number -- 10 to the power of 32.

So if you take into account future generations as much as our own, every other moral imperative of philanthropic cost just becomes irrelevant. The only thing you should focus on would be to reduce existential risk because even the tiniest decrease in existential risk would just overwhelm any other benefit you could hope to achieve. And even if you just look at the current people, and ignore the potential that would be lost if we went extinct, it should still have a high priority.

The third big problem is that life isn't usually as wonderful as it could be. I think that's a big, big problem. It's easy to say what we don't want. Here are a number of things that we don't want: illness, involuntary death, unnecessary suffering, cruelty, stunted growth, memory loss, ignorance, absence of creativity. Suppose we fixed these things -- we did something about all of these. We were very successful. We got rid of all of these things. But is this really the best we can dream of? Is this the best we can do?

Or is it possible to find something a little bit more inspiring to work towards? And if we think about this, I think it's very clear that there are ways in which we could change things, not just by eliminating negatives, but adding positives. On my wish list, at least, would be: much longer, healthier lives, greater subjective well-being, enhanced cognitive capacities, more knowledge and understanding, unlimited opportunity for personal growth beyond our current biological limits, better relationships, an unbounded potential for spiritual, moral and intellectual development.

If we want to achieve this, what, in the world, would have to change? And this is the answer -- we would have to change. Not just the world around us, but we, ourselves. Not just the way we think about the world, but the way we are -- our very biology. Human nature would have to change. Now, when we think about changing human nature, the first thing that comes to mind are these human modification technologies -- growth hormone therapy, cosmetic surgery, stimulants like Ritalin, Adderall, anti-depressants, anabolic steroids, artificial hearts. It's a pretty pathetic list. They do great things for a few people who suffer from some specific condition, but for most people, they don't really transform what it is to be human. And they also all seem a little bit anti-depressants for the really depressed people. But there's a kind of queasiness that these are unnatural in some way.

It's worth recalling that there are a lot of other modification technologies and enhancement technologies that we use. We have skin enhancements, clothing. Mood modifiers have been used from time immemorial -- caffeine, alcohol, nicotine, immune system enhancement, vision enhancement, anesthetics -- we take that very much for granted, but just think about how great progress that is -- like, having an operation before anesthetics was not fun. Contraceptives, cosmetics and brain reprogramming techniques -- that sounds ominous, but the distinction between what is a technology -- a gadget would be the archetype -- and other

ways of changing and rewriting human nature is quite subtle. So if you think about what it means to learn arithmetic or to learn to read, you're actually, literally rewriting your own brain. You're changing the microstructure of your brain as you go along. So in a broad sense, we don't need to think about technology as only little gadgets, like these things here, but even institutions and techniques, psychological methods and so forth. Forms of organization can have a profound impact on human nature.

Looking ahead, there is a range of technologies that are almost certain to be developed sooner or later. We are very ignorant about what the time scales for these things are, but they all are consistent with everything we know about physical laws, laws of chemistry, etc. It's possible to assume, setting aside a possibility of catastrophe, that sooner or later we will develop all of these. And even just a couple of these would be enough to transform the human condition.

So let's look at some of the dimensions of human nature that seem to leave room for improvement. Health span is a big and urgent thing, because if you're not alive, then all the other things will be to little avail. Intellectual capacity -- let's take that box, which falls into a lot of different sub-categories: memory, concentration, mental energy, intelligence, empathy. These are really great things. Part of the reason why we value these traits is that they make us better at competing with other people -- they're positional goods. But part of the reason -- and that's the reason why we have ethical ground for pursuing these -- is that they're also intrinsically valuable. It's just better to be able to understand more of the world around you and the people that you are communicating with, and to remember what you have learned. Modalities and special faculties. Now, the human mind is not a single unitary information processor, but it has a lot of different, special, evolved modules that do specific things for us. If you think about what we normally take as giving life a lot of its meaning, music, humor, eroticism, spirituality, aesthetics, nurturing and caring, gossip, chatting with people all of these, very likely, are enabled by a special circuitry that we humans have, but that you could have another intelligent life form that lacks these. We're just lucky that we have the requisite neural machinery to process music and to appreciate it and enjoy it. All of these would enable, in principle -- be amenable to enhancement. Some people have a better musical ability and ability to appreciate music than others have. It's also interesting to think about what other things are -- so if these all enabled great values, why should we think that evolution has happened to provide us with all the modalities we would need to engage with other values that there might be?

Imagine a species that just didn't have this neural machinery for processing music. And they would just stare at us with bafflement when we spend time listening to a beautiful performance, because of people making stupid movements, and they would be really irritated and wouldn't see what we were up to. But maybe they have another faculty, something else that would seem equally irrational to us, but they actually tap into some great possible value there. But we are just literally deaf to that kind of value. So we could think of adding on different, new sensory capacities and mental faculties. Bodily functionality and morphology and affective self-control. Greater subjective well-being. Be able to switch between relaxation and activity -- being able to go slow when you need to do that, and to speed up. Able to switch back and forth more easily would be a neat thing to be able to do -- easier to achieve the flow state, when you're totally immersed in something you are doing. Conscientiousness and sympathy. The ability to -- it's another interesting application that would have large social ramification, perhaps. If you could actually choose to preserve your romantic attachments to one person, undiminished through time, so that wouldn't have to -- love would never have to fade if you didn't want it to. That's probably not all that difficult. It might just be a simple hormone or something that could do this.

It's been done in voles. You can engineer a prairie vole to become monogamous when it's naturally polygamous. It's just a single gene. Might be more complicated in humans, but perhaps not that much. A possible mode of being here would be a way of life -- a way of being, experiencing, thinking, seeing, interacting with the world.

And then you can imagine some enhancements of human capacities. There would be different modes of being you could experience if you were able to stay alive for, say, 200 years. Then you could live sorts of lives and accumulate wisdoms that are just not possible for humans as we currently are. So then, you move off to this larger sphere of "human +," and you could continue that process and eventually explore a lot of possible modes of being.

Now, why is that a good thing to do? Well, we know already that in this little human circle, there are these enormously wonderful and worthwhile modes of being -- human life at its best is wonderful. We have no reason to believe that within this much, much larger space there would not also be extremely worthwhile modes of being, perhaps ones that would be way beyond our wildest ability even to imagine or dream about.

The decline in violence

Images from the Auschwitz concentration camp, have been seared into our consciousness during the twentieth century and have given us a new understanding of who we are, where we've come from and the times we live in. During the twentieth century, we witnessed the atrocities of Stalin, Hitler, Mao, Pol Pot, Rwanda and other genocides, up to this very day. This has led to a common understanding of our situation, namely that modernity has brought us terrible violence, and perhaps that native peoples lived in a state of harmony that we have departed from, to our peril.

After all, the Indian life was a difficult one, but there were no employment problems, community harmony was strong, substance abuse unknown, crime nearly non-existent, what warfare there was between tribes was largely ritualistic and seldom resulted in indiscriminate or wholesale slaughter.

But, in fact, our ancestors were far more violent than we are, that violence has been in decline for long stretches of time, and that today we are probably living in the most peaceful time in our species' existence.

Now, in the decade of Darfur and Iraq, a statement like that might seem somewhere between hallucinatory and obscene. The decline of violence is a fractal phenomenon. You can see it over millennia, over centuries, over decades and over years, although there seems to have been a tipping point at the onset of the Age of Reason in the sixteenth century. One sees it all over the world, although not homogeneously. It's especially evident in the West, beginning with England and Holland around the time of the Enlightenment.

Until 10,000 years ago, all humans lived as hunter-gatherers, without permanent settlements or government. And this is the state that's commonly thought to be one of primordial harmony. But the archaeologist Lawrence Keeley, looking at casualty rates among contemporary hunter-gatherers, which is our best source of evidence about this way of life, has shown a rather different conclusion.

We can look at the way of life of early civilizations such as the ones described in the Bible. And in this supposed source of our moral values, one can read descriptions of what was

expected in warfare, such as the following from Numbers 31: "And they warred against the Midianites as the Lord commanded Moses, and they slew all the males. And Moses said unto them, 'Have you saved all the women alive? Now, therefore, kill every male among the little ones and kill every woman that hath known man by lying with him, but all the women children that have not know a man by lying with him keep alive for yourselves.'" In other words, kill the men; kill the children; if you see any virgins, then you can keep them alive so that you can rape them. You can find four or five passages in the Bible of this ilk. Also in the Bible, one sees that the death penalty was the accepted punishment for crimes such as homosexuality, adultery, blasphemy, idolatry. Although we don't have statistics for warfare throughout the Middle Ages to modern times, we know just from conventional history -- the evidence was under our nose all along that there has been a reduction in socially sanctioned forms of violence.

Any social history will reveal that mutilation and torture were routine forms of criminal punishment. The kind of infraction today that would give you a fine, in those days would result in your tongue being cut out, your ears being cut off, you being blinded, a hand being chopped off and so on. There were numerous ingenious forms of sadistic capital punishment: burning at the stake, disemboweling, breaking on the wheel, being pulled apart by horses and so on. The death penalty was a sanction for a long list of non-violent crimes: criticizing the king, stealing a loaf of bread. Slavery, of course, was the preferred labor-saving device, and cruelty was a popular form of entertainment. Perhaps the most vivid example was the practice of cat burning, in which a cat was hoisted on a stage and lowered in a sling into a fire, and the spectators shrieked in laughter as the cat, howling in pain, was burned to death.

What about one-on-one murder? Well, there, there are good statistics, because many municipalities recorded the cause of death. The criminologist Manuel Eisner scoured all of the historical records across Europe for homicide rates in any village, hamlet, town, county that he could find, and he supplemented them with national data, when nations started keeping statistics. He plotted on a logarithmic scale, going from 100 deaths per 100,000 people per year, which was approximately the rate of homicide in the Middle Ages. And the figure plummets down to less than one homicide per 100,000 people per year in seven or eight European countries. Then, there is a slight uptick in the 1960s. The people who said that rock 'n' roll would lead to the decline of moral values actually had a grain of truth to that. But there was a decline from at least two orders of magnitude in homicide from the Middle Ages to the present, and the elbow occurred in the early sixteenth century.

According to non-governmental organizations that keep such statistics, since 1945, in Europe and the Americas, there has been a steep decline in interstate wars, in deadly ethnic riots or pogroms, and in military coups, even in South America. Worldwide, there's been a steep decline in deaths in interstate wars. The death rate goes down from 65,000 deaths per conflict per year in the 1950s to less than 2,000 deaths per conflict per year in this decade, as horrific as it is. Since the end of the Cold War, there have been fewer civil wars, fewer genocides -- indeed, a 90 percent reduction since post-World War II highs -- and even a reversal of the 1960s uptick in homicide and violent crime.

So the question is why are so many people so wrong about something so important? I think there are a number of reasons. One of them is we have better reporting. The Associated Press is a better chronicler of wars over the surface of the Earth than sixteenth-century monks were. There's a cognitive illusion. We cognitive psychologists know that the easier it is to recall specific instances of something, the higher the probability that you assign to it. Things that we

read about in the paper with gory footage burn into memory more than reports of a lot more people dying in their beds of old age.

There's guilt about our treatment of native peoples in modern intellectual life, and an unwillingness to acknowledge there could be anything good about Western culture. And of course, our change in standards can outpace the change in behavior. One of the reasons violence went down is that people got sick of the carnage and cruelty in their time. That's a process that seems to be continuing, but if it outstrips behavior by the standards of the day, things always look more barbaric than they would have been by historic standards. So today, we get exercised if a handful of murderers get executed by lethal injection in Texas after a 15-year appeal process. We don't consider that a couple of hundred years ago, they may have been burned at the stake for criticizing the king after a trial that lasted 10 minutes, and indeed, that that would have been repeated over and over again. Today, we look at capital punishment as evidence of how low our behavior can sink, rather than how high our standards have risen.

But why has violence declined? No one really knows, but I have read four explanations, all of which, I think, have some grain of plausibility. The first is, maybe Thomas Hobbes got it right. He was the one who said that life in a state of nature was "solitary, poor, nasty, brutish and short." Not because, he argued, humans have some primordial thirst for blood or aggressive instinct or territorial imperative, but because of the logic of anarchy. In a state of anarchy, there's a constant temptation to invade your neighbors preemptively, before they invade you. More recently, Thomas Schelling gives the analogy of a homeowner who hears a rustling in the basement. Being a good American, he has a pistol in the nightstand, pulls out his gun, and walks down the stairs. And what does he see but a burglar with a gun in his hand. Now, each one of them is thinking, "I don't really want to kill that guy, but he's about to kill me. Maybe I had better shoot him, before he shoots me, especially since, even if he doesn't want to kill me, he's probably worrying right now that I might kill him before he kills me." And so on. Hunter-gatherer peoples explicitly go through this train of thought, and will often raid their neighbors out of fear of being raided first.

Now, one way of dealing with this problem is by deterrence. You don't strike first, but you have a publicly announced policy that you will retaliate savagely if you are invaded. The only thing is that it's liable to having its bluff called, and therefore can only work if it's credible. To make it credible, you must avenge all insults and settle all scores, which leads to the cycles of bloody vendetta. Hobbes' solution, the "Leviathan," was that if authority for the legitimate use of violence was vested in a single democratic agency -- a leviathan -- then such a state can reduce the temptation of attack, because any kind of aggression will be punished, leaving its profitability as zero. That would remove the temptation to invade preemptively, out of fear of them attacking you first. It removes the need for a hair trigger for retaliation to make your deterrent threat credible. And therefore, it would lead to a state of peace. The timing of the decline of homicide in Europe coincided with the rise of centralized states. So that's a bit of a support for the leviathan theory. Also supporting it is the fact that we today see eruptions of violence in zones of anarchy, in failed states, collapsed empires, frontier regions, mafias, street gangs and so on.

The second explanation is that in many times and places, there is a widespread sentiment that life is cheap. In earlier times, when suffering and early death were common in one's own life, one has fewer compunctions about inflicting them on others. And as technology and economic efficiency make life longer and more pleasant, one puts a higher value on life in general. This was an argument from the political scientist James Payne.

A third explanation invokes the concept of a nonzero-sum game, and was worked out in the book "Nonzero" by the journalist Robert Wright. Wright points out that in certain circumstances, cooperation or non-violence can benefit both parties in an interaction, such as gains in trade when two parties trade their surpluses and both come out ahead, or when two parties lay down their arms and split the so-called peace dividend that results in them not having to fight the whole time. Wright argues that technology has increased the number of positive-sum games that humans tend to be embroiled in, by allowing the trade of goods, services and ideas over longer distances and among larger groups of people. The result is that other people become more valuable alive than dead, and violence declines for selfish reasons. As Wright put it, "Among the many reasons that I think that we should not bomb the Japanese is that they built my mini-van."

The fourth explanation is captured in the title of a book called "The Expanding Circle," by the philosopher Peter Singer, who argues that evolution bequeathed humans with a sense of empathy, an ability to treat other peoples' interests as comparable to one's own. Unfortunately, by default we apply it only to a very narrow circle of friends and family. People outside that circle are treated as sub-human, and can be exploited with impunity. But, over history, the circle has expanded. In historical record, it expanding from the village, to the clan, to the tribe, to the nation, to other races, to both sexes, and, in Singer's own arguments, something that we should extend to other sentient species. The question is, if this has happened, what has powered that expansion?

And there are a number of possibilities, such as increasing circles of reciprocity in the sense that Robert Wright argues for. The logic of the golden rule -- the more you think about and interact with other people, the more you realize that it is untenable to privilege your interests over theirs, at least not if you want them to listen to you. You can't say that my interests are special compared to yours, anymore than you can say that the particular spot that I'm standing on is a unique part of the universe because I happen to be standing on it that very minute. It may also be powered by cosmopolitanism, by histories, and journalism, and memoirs, and realistic fiction, and travel, and literacy, which allows you to project yourself into the lives of other people that formerly you may have treated as sub-human, and also to realize the accidental contingency of your own station in life.

Whatever its causes, the decline of violence, I think, has profound implications. It should force us to ask not just, why is there war? But also, why is there peace? Not just, what are we doing wrong? But also, what have we been doing right? Because we have been doing something right, and it sure would be good to find out what it is.

A Problem in Design

Everyone nowadays is more or less aware that what we see around us in the world of nature is the result of a design process called evolution. This was not always the case of course. For thousands of years in our culture, it was imagined that what we see around us was the work of a divine designer who delivered the finished product in its eternally final form in a single stroke. God not only got everything right the first time, he got it so right that it couldn't possibly be improved on by any means.

Since the nineteenth century, this antiquated perception of the world has largely disappeared. Most people now realize that the marvelous designs we see around us in the living community came about through an exacting process called natural selection. Human design--and by this I

mean design BY humans, not design OF humans--is similar to evolutionary design in some ways and different in other ways.

Human design is always directed toward IMPROVEMENT. Evolutionary design, on the other hand, only APPEARS to be directed toward improvement, and this confuses a lot of people. It leads them to imagine that evolution is HEADING somewhere, presumably toward the eternally final forms that God created in a single stroke. Evolutionary design in fact merely tends to eliminate the less workable and perpetuate the more workable. When we look at a seagull or a giraffe or a cheetah or a spider, we see a version of the product that's working beautifully--because all the dysfunctional versions have been eliminated from the gene pool of that species through natural selection. If conditions change, however--and we had the leisure to watch-- we'd see these apparently perfect forms begin to change in subtle ways or dramatic ways as natural selection eliminates the less workable adaptations to the new conditions and perpetuates the more workable.

Design change is a reaction to pressure--and this is true of both evolutionary design and human design.

In a completely stable system, there is no pressure to make design changes. Evolutionary design has nothing to do. But of course in reality there is no such thing as a completely stable system.

The same is true of human design. If I were to show you a paleolithic handaxe and a mesolithic handaxe, you'd be hard put to know one from the other. In a million years, there was virtually no pressure on people to improve their stone tools--and they didn't, at least not intentionally. During the period between the paleolithic and the mesolithic, minute, unnoticed improvements were being made, imitated, and unconsciously handed down in every generation, accumulating over the millennia to produce tools that an expert would immediately recognize as mesolithic.

But our social organization isn't the product of natural selection. It's a product of the Rube Goldberg school of design, a contraption cobbled together out of spare parts. In Ishmael I compared it to an early flying machine--of the type that could GET into the air (if you pushed them off a cliff) but that couldn't STAY in the air, because they were not built in accordance with the laws of aerodynamics.

The school, the troop, the flock, the tribe (to mention just a few of the social organizations that have emerged through natural selection) are stable organizations because they work well for their members.

Our organizations are fairly stable, not because they work well but because we FORBID them to change. They're stable . . .

By decree. The Constitution is the rock upon which a society is built. As we all know, that which is built on a rock is stable, because rocks are stable unchanging, not subject to natural selection. Of course our Constitution can be changed, but you know how difficult THAT is. It's difficult BY DESIGN. Because we desire stability, we cobble together an organization DESIGNED to resist change.

Order, maintained by a standing army of police. People like workers into a general Strike are perceived to be the enemies of order and stability to this day. As designers, however, we

should see the matter differently. The very fact that these workers are striking should tell us that there's something wrong with the design of their organizational system. But IN that organizational system, we don't change the DESIGN.

The advances that have taken place in physics, astronomy, cosmology and biology, in the last 10 years, are really extraordinary -- to the point where we know more about our universe and how it works than many of you might imagine.

We lose the will to survive. We live in an incredible age of modern medicine. We are all much healthier than we were 20 years ago. People around the world are getting better medicine -- but mentally, we're falling apart. The World Health Organization now estimates that one out of five people on the planet is clinically depressed. And the World Health Organization also says that depression is the biggest epidemic that humankind has ever faced.

Soon, genetic breakthroughs and even better medicine are going to allow us to think of 100 as a normal lifespan. A female child born tomorrow, on average -- median -- will live to age 83. Our life longevity is going up almost a year for every year that passes. Now the problem with all of this, getting older, is that people over 65 are the most likely people to commit suicide.

So, what are the solutions? Something like 98 percent of all people with depression, depression is a curable disease, with present medicine and present technology. But it is often a combination of talk therapy and pills. Pills alone don't do it, especially in clinically depressed people.

We hire more troops. We enlist and train right-thinking civilians to combat the malcontents. When I say "we," I don't mean to suggest that this is a 20th century phenomenon. Every age had people who threatened the stability of the organization. As today, these trouble-makers weren't examined as signs of a design problem.

We have to build vast warehouses to hold all the malcontents, misfits, and criminals that are produced in our system. But we don't perceive this to be signaling profound design flaws in the system. In general, we don't ask ourselves, "What's wrong with the design here?" We ask ourselves . . . "What's wrong with these boys? What's wrong with these boys who, enjoying the highest standard of living the world has ever known, go to school one day ready to murder. Having gunned down as many as their schoolmates as possible, they then hoped to steal a plane and crash it into New York City."

When our children start becoming murderers, we typically don't wonder what's wrong with the system that's turning them INTO murderers; we wonder what's wrong with THEM. Imagine an assembly line that out of every hundred vehicles turns out one that is horribly defective. Then imagine--instead of examining the assembly line--taking the defective vehicle out and shooting it. Then, when the next one comes along--instead of examining the assembly line--taking THAT one and shooting it. And when the next one comes along--instead of examining the assembly line--taking THAT one out and shooting it.

It was amusing, after the Jonesboro massacre, the prosecutor of THOSE boys vowed to go after them so fiercely that he was going to SEND A MESSAGE to the youth of America. And what was the message? WE'RE NOT GOING TO PUT UP WITH THIS SORT OF THING. Understand that? We're not just going to put up with it!

We're not going to CHANGE anything - no no, everything's perfect the way it is. We're just going to punish the hell out of you. And that'll send a message. So the NEXT bunch of boys who think of massacring their schoolmates will stop and say, "Wait a second! Hey! What was that message about massacring your schoolmates? Oh, I remember now. If you massacre your schoolmates, they're going to send you to jail for a thousand years. Or is it two thousand years? Well, I guess if it's going to be a thousand years, we'd better not massacre our schoolmates. If it were only twenty years or fifty years, then we could go ahead. But a thousand years, wow. I can't do a thousand years."

Was that the problem in Columbine--that these boys just had failed to get this message? Were they under the impression that they were just going to get slapped on the wrist for gunning down their classmates and blowing up a school and crashing an airplane into a city block? Did they do all that--or plan to do all that--because they had the mistaken idea that no one would mind?

No, it's perfectly clear that they were not under any illusion about the consequences of their actions. They expected NOT to survive their adventure.

The question I want to leave with you as designers is this. How have we gone about nurturing children who have so little to live for and so much to hate that they'll happily throw their lives away if they can murder 500 classmates, blow up a school, and crash an airplane into a city block? Please don't tell me about violent video games and violent music. Instead, tell me how we've gone about nurturing children who WANT violent video games and violent music, who THRIVE on violent video games and violent music.

In general (it can be said with reasonable justification) natural selection works on this principle, "If it doesn't work, do it LESS." Any gene that works against reproductive success tends to be eliminated from the gene pool--is found less and less in the gene pool until it finally disappears. Doing less of what doesn't work is a principle that is practically instinctive to the human designer. But when it comes to our social organizations, the people of our culture follow a very different principle: If it doesn't work, do it MORE.

I almost always get a laugh with this statement. I'm not sure whether it's the shock of recognition or if people just think I'm kidding. I'm certainly not kidding. The principle is best seen at work in the institutions dedicated to maintaining the stability of our structures and systems. It's an anti-evolutionary principle, a principle that keeps anything new from happening. Here are some examples.

If spending a billion dollars doesn't win the war on drugs, spend two billion. If spending two billion doesn't work, spend four. Sound familiar?

If hiring a thousand cops doesn't stop crime in your city, hire 2000. If hiring 2000 doesn't work, hire 4000.

If sentencing criminals to 10 years doesn't work, sentence them to 20 years. If 20 years doesn't work, sentence them to 50--to 500, a thousand!

If building a thousand prisons doesn't work, build 2000. If building 2000 doesn't work, build 4000.

If assigning two hours of homework doesn't work, assign three. If assigning three doesn't work, assign four.

I became aware of this principle when I was the head of the mathematics department at the Encyclopedia Britannica Educational Corporation. Someone gave me a white paper that had been put together by the National Association of Teachers of English examining the state of teaching and objectives for the future. In spite of all the themes we give them to write, they said, kids aren't learning to how to write. So what we have to do is--guess what?--give them MORE THEMES to write. Writing 20 themes a year doesn't work, so give them 30. And if 30 doesn't work, give them 40.

If you're taxpayers, you've seen your tax bills for education escalate steadily, year after year, decade after decade, as every year the schools struggle to do more of what doesn't work. Everyone connected to the system is completely convinced that if spending nine trillion doesn't work, then you just need to spend ten.

Naturally there were counselors at Columbine High School. But after the massacre, Janet Reno stood up and said, guess what, that we need to push for MORE COUNSELORS. Having counselors didn't work, so NATURALLY we should have MORE of them, and if one for every hundred kids doesn't work, then we should have two, and if two doesn't work, then we should have three.

We have an organizational system that works wonderfully well for products. But we don't have a system that works wonderfully well for people. That's the lesson to be learned at Jonesboro and Columbine--and at the places that are going to follow, because these two aren't the last two, they're just the first two.

We have a system that works fabulously well for products. But the one we have for people stinks. This is the lesson we've got to learn--or the human future on this planet is going to be a very bleak one indeed.

So this is the message I'd like to leave with you. For the sake of the human future, don't take your designer's hat off when you leave the office. Don't limit your work or your thinking to the objects and physical structures that people need and want. Look at everything that's going on here with designer's eyes. For the sake of the human future, go after it all like designers.

Winning the Oil Endgame

The old story about climate protection is that it's costly, or it would have been done already. So government needs to make us do something painful to fix it. The new story about climate protection is that it's not costly, but profitable. This was a simple sign error, because it's cheaper to save fuel than to buy fuel, as is well known to companies that do it all the time -- for example, Dupont, SD micro electronics. Many other firms -- IBM -- are reducing their energy intensity routinely six percent a year by fixing up their plants, and they get their money back in two or three years. That's called a profit.

Now, similarly, the old story about oil is that if we wanted to save very much of it, it would be expensive, or we would have done it already, because markets are essentially perfect. If, of course, that were true, there would be no innovation, and nobody could make any money. But the new story about oil is the government doesn't have to force us to do painful things to get off oil -- not just incrementally, but completely -- quite the contrary. The United States, for example, can completely eliminate its use of oil and rejuvenate the economy at the same time, led by business for profit, because it's so much cheaper to save and substitute for the oil than

to keep on buying it. This process will also be catalyzed by the military for its own reasons of combat effectiveness and preventing conflict, particularly over oil.

Around 1850, one of the biggest U.S. industries was whaling. And whale oil lit practically every building. But in the nine years before Drake struck oil, in 1859, at least five-sixths of that whale oil-illuminating market disappeared, thanks to fatal competitors, chiefly oil and gas made from coal, to which the whalers had not been paying attention. So, very unexpectedly, they ran out of customers before they ran out of whales. The remnant whale populations were saved by technological innovators and profit-maximizing capitalists.

We've been spending the last few decades accumulating a very powerful backlog of technologies for saving and substituting for oil, and no one had bothered to add them up before. So when we did, we found some very surprising things. Now, there are two big reasons to be concerned about oil. Both national competitiveness and national security are at risk. On the competitiveness front, we all know that Toyota has more market cap than the big three put together. And serious competition from Europe, from Korea, and next is China, which will soon be a major net exporter of cars. How long do you think it will take before you can drive home your new wally-badged Shanghai automotive super-efficient car? Maybe a decade. China has an energy policy based on radical energy efficiency and leap-frog technology.

And after that comes India. The point here is, these cars are going to be made super efficient. The question is who will make them? Will the United States continue to import efficient cars to replace foreign oil, or will they make efficient cars and import neither the oil nor the cars? That seems to make more sense. The more we keep on using the oil, particularly the imported oil, the more we face a very obvious array of problems.

And US military get quite unhappy with having to stand guard on pipelines in Far-off-istan when what they actually signed up for was to protect American citizens. They don't like fighting over oil, they don't like being in the sands and they don't like where the oil money goes and what sort of instability it creates. Now, in order to avoid these problems, whatever you think they're worth, it's actually not that complicated. We can save half the oil by using it more efficiently, at a cost of 12 dollars per saved barrel. And then we can replace the other half with a combination of advanced bio-fuels and safe natural gas. And that costs on average under 18 dollars a barrel. And compared with the official forecast, that oil will cost 26 dollars a barrel in 2025, which is half of what we've been paying lately, that will save 70 billion dollars a year, starting quite soon. Now, in order to do this we need to invest about 180 billion dollars: half of it to retool the car, truck and plane industries; half of it to build the advanced bio-fuel industry. In the process, we will gain about a million good jobs, mainly rural. And protect another million jobs now at risk, mainly in auto-making. And we'll also get returns over 150 billion dollars a year. So that's a very handsome return. It's financeable in the private capital market. But if you want it for the reasons I just mentioned, to happen sooner and with higher confidence, then -- and also to expand choice and manage risk -- then you might like some light-handed public policies that support rather than distorting or opposing the business logic. And these policies work fine without taxes, subsidies or mandates. They make a little net money for the treasury.

In the airplane business, it's again a similar story where the first 20 percent fuel saving is free, as Boeing is now demonstrating in its new Dreamliner. But then the next generation of planes saves about half. Again, much cheaper than buying the fuel. And if you go over the next 15 years or so to a blended-wing body, kind of a flying wing with internal engines, then you get

about a factor three efficiency improvement at comparable or lower cost. Let’s focus a minute on the light vehicles, the cars and light trucks, because we all know the most about those. And yet we may not realize that in a standard sedan, of all the fuel energy you feed into the car, seven-eighths never gets to the wheels; it's lost first in the engine, idling at zero miles a gallon, the power train and accessories.

So then of the energy that does get to the wheels, only an eighth of it, half of that, goes to heat the tires on the road, or to heat the air the car pushes aside. And only this little bit, only six percent actually ends up accelerating the car and then heating the brakes when you stop. In fact, since 95 percent of the weight you're moving is the car not the driver, less than one percent of the fuel energy ends up moving the driver. This is not very gratifying after more than a century of devoted engineering effort.

Moreover, three-fourths of the fuel use is caused by the weight of the car. And it's obvious from the diagram that every unit of energy you save at the wheels is going to avoid wasting another seven units of energy getting that energy to the wheels. So there's huge leverage for making the car a lot lighter. And the reason this has not been very seriously examined before is there was a common assumption in the industry that -- well, then it might not be safe if you got whacked by a heavy car, and it would cost a lot more to make, because the only way we know how to make cars much lighter was to use expensive light metals like aluminum and magnesium. But these objections are now vanishing through advances in materials.

For example, we use a lot of carbon-fiber composites in sporting goods. And it turns out that these are quite remarkable for safety. These materials could actually absorb 6 to 12 times as much energy per pound as steel, and do so a lot more smoothly.

And this means we've just cracked the conundrum of safety and weight. We could make cars bigger, which is protective, but make them light. Whereas if we made them heavy, they'd be both hostile and inefficient. And when you make them light in the right way that can be simpler and cheaper to make. You can end up saving money, and lives, and oil, all at the same time.

A new type of literacy and the user-generated content.

The most significant thing to recognize about what this Internet is doing is its opportunity to revive the read-write culture. User-generated content, spreading in businesses in extraordinarily valuable ways, celebrating amateur culture. By which I don't mean amateurish culture, I mean culture where people produce for the love of what they're doing and not for the money. I mean the culture that your kids are producing all the time. Taking the songs of the day and the old songs and remixing them to make them something different. It's how they understand access to this culture.

The importance is that that technique has been democratized. It is now anybody with access to a $500 computer who can take sounds and images from the culture around us and use it to say things differently. These tools of creativity have become tools of speech. It is a literacy for this generation. This is how our kids speak. It is how our kids think. It is what your kids are as they increasingly understand digital technologies and their relationship to themselves.

It is technology that has made them different, and as we see what this technology can do, we need to recognize you can't kill the instinct the technology produces. We can only criminalize it. We can't stop our kids from using it. We can only drive it underground. We can't make our

kids passive again. We can only make them, quote, "pirates." And is that good? We live in this weird time. It's kind of age of prohibitions, where in many areas of our life, we live life constantly against the law. Ordinary people live life against the law, and that's what we are doing to our kids. They live life knowing they live it against the law. That realization is extraordinarily corrosive, extraordinarily corrupting. And in a true democracy, we ought to be able to do better. Do better, at least for them, if not for opening for business. But, folks, we do not live in a true democracy, do we?

Post-conflict recovery

How we might do post-conflict recovery better? The record on post-conflict recovery is not very impressive. 40 percent of all post-conflict situations, historically, have reverted back to conflict within a decade. In fact, they've accounted for half of all civil wars. Why has the record been so poor? Well, the conventional approach to post-conflict situations has rested on, on kind of, three principles.

The first principle is: it's the politics that matters. So, the first thing that is prioritized is politics. Try and build a political settlement first. And then the second step is to say, "The situation is admittedly dangerous, but only for a short time." So get peacekeepers there, but get them home as soon as possible. So, short-term peacekeepers. And thirdly, what is the exit strategy for the peacekeepers? It's an election. That will produce a legitimate and accountable government.

That's the conventional approach. I think that approach denies reality. We see that there is no quick fix. There's certainly no quick security fix. We've tried to look at the risks of reversion to conflict, during a post-conflict decade. And the risks stay high throughout the decade. And they stay high regardless of the political innovations. Does an election produce an accountable and legitimate government? What an election produces is a winner and a loser. And the loser is unreconciled. The reality is that we need to reverse the sequence. It's not the politics first; it's actually the politics last. The politics become easier as the decade progresses if you're building on a foundation of security and economic development -- the rebuilding of prosperity.

Why does the politics get easier? And why is it so difficult initially? Because after years of stagnation and decline, the mentality of politics is that it's a zero-sum game. If the reality is stagnation, I can only go up if you go down. And that doesn't produce a productive politics. And so the mentality has to shift from zero-sum to positive-sum before you can get a productive politics. You can only get positive, that mental shift, if the reality is that prosperity is being built. And in order to build prosperity, we need security in place. So that is what you get when you face reality. But the objective of facing reality is to change reality.

And so now let me suggest two complimentary approaches to changing the reality of the situations. The first is to recognize the interdependence of three key actors, who are different actors, and at the moment are uncoordinated. The first actor is the Security Council. The Security Council typically has the responsibility for providing the peacekeepers who build the security. And that needs to be recognized, first of all, that peacekeeping works. It is a cost-effective approach. It does increase security. But it needs to be done long-term. It needs to be a decade-long approach, rather than just a couple of years. That's one actor, the Security Council.

The second actor, different cast of guys, is the donors. The donors provide post-conflict aid. Typically in the past, the donors have been interested in the first couple of years, and then they got bored. They moved on to some other situation. Post-conflict economic recovery is a slow process. There are no quick processes in economics except decline. You can do that quite fast. So the donors have to stick with this situation for at least a decade.

And then the third key actor is the post-conflict government. And there are two key things it's got to do. One is it's got to do economic reform, not fuss about the political constitution. It's got to reform economic policy. Why? Because during conflict economic policy typically deteriorates. Governments snatch short-term opportunities and, by the end of the conflict, the chickens have come home to roost.

So this legacy of conflict is really bad economic policy. So there is a reform agenda, and there is an inclusion agenda. The inclusion agenda doesn't come from elections. Elections produce a loser, who is then excluded. So the inclusion agenda means genuinely bringing people inside the tent. So those three actors. And they are interdependent over a long term. If the Security Council doesn't commit to security over the course of a decade, you don't get the reassurance which produces private investment. If you don't get the policy reform and the aid, you don't get the economic recovery, which is the true exit strategy for the peacekeepers. So we should recognize that interdependence, by formal, mutual commitments. The United Nations actually has a language for these mutual commitments, the recognition of mutual commitments; it's called the language of compact. And so we need a post-conflict compact. The United Nations even has an agency which could broker these compacts; it's called the Peace Building Commission.

It would be ideal to have a standard set of norms where, when we got to a post-conflict situation, there was an expectation of these mutual commitments from the three parties. So that's idea one: recognize interdependence.

The second idea is to focus on a few critical objectives. Typical post-conflict situation is a zoo of different actors with different priorities. And indeed, unfortunately, if you navigate by needs you get a very unfocused agenda, because in these situations, needs are everywhere, but the capacity to implement change is very limited. So we have to be disciplined and focus on things that are critical.

In the typical post-conflict situation three things are critical. One is jobs. One is improvements in basic services -- especially health, which is a disaster during conflict. So jobs, health, and clean government. Those are the three critical priorities.

Jobs. What is a distinctive approach to generating jobs in post-conflict situations? And why are jobs so important? Jobs for whom? Especially jobs for young men. In post-conflict situations, the reason that they so often revert to conflict, is not because elderly women get upset. It's because young men get upset. And why are they upset? Because they have nothing to do. And so we need a process of generating jobs, for ordinary young men, fast. Now, that is difficult. Governments in post-conflict situation often respond by puffing up the civil service. That is not a good idea. It's not sustainable. In fact, you're building a long-term liability by inflating civil service. But getting the private sector to expand is also difficult, because any activity which is open to international trade is basically going to be uncompetitive in a post-conflict situation. These are not environments where you can build export manufacturing.

There's one sector which isn't exposed to international trade, and which can generate a lot of jobs, and which is, in any case, a sensible sector to expand, post-conflict, and that is the construction sector. The construction sector has a vital role, obviously, in reconstruction. But typically that sector has withered away during conflict. During conflict people are doing destruction. There isn't any construction going on. And so the sector shrivels away. And then when you try and expand it, because it's shriveled away, you encounter a lot of bottlenecks. Basically, prices soar and crooked politicians then milk the rents from the sector, but it doesn't generate any jobs. And so the policy priority is to break the bottlenecks in expanding the construction sector.

What might the bottlenecks be? Just think what you have to do successfully to build a structure, using a lot of labor. First you need access to land. Often the legal system is broken down so you can't even get access to land. Secondly you need skills, the mundane skills of the construction sector. In post-conflict situations we don't just need Doctors Without Borders, we need Bricklayers Without Borders, to rebuild the skill set. We need firms. The firms have gone away. So we need to encourage the growth of local firms. If we do that, we not only get the jobs, we get the improvements in public infrastructure, the restoration of public infrastructure.

Improving basic social services. And to date, there has been a sort of a schizophrenia in the donor community, as to how to build basic services in post-conflict sectors. On the one hand it pays lip service to the idea of rebuild an effective state in the image of Scandinavia in the 1950s. Lets develop line ministries of this, that, and the other, that deliver these services. And it's schizophrenic because in their hearts donors know that's not a realistic agenda, and so what they also do is the total bypass: just fund NGOs.

Neither of those approaches is sensible. And so what I'd suggest is what I call Independent Service Authorities. It's to split the functions of a monopoly line ministry up into three. The planning function and policy function stays with the ministry; the delivery of services on the ground, you should use whatever works -- churches, NGOs, local communities, whatever works. And in between, there should be a public agency, the Independent Service Authority, which channels public money, and especially donor money, to the retail providers. So the NGOs become part of a public government system, rather than independent of it.

One advantage of that is that you can allocate money coherently. Another is, you can make NGOs accountable. You can use yardstick competition, so they have to compete against each other for the resources. The good NGOs, like Oxfam, are very keen on this idea. They want to have the discipline and accountability. So that's a way to get basic services scaled up. And because the government would be funding it, it would be co-branding these services. So they wouldn't be provided thanks to the United States government and some NGO. They would be co-branded as being done by the post-conflict government, in the country. So, jobs, basic services, finally, clean government.

Clean means follow their money. The typical post-conflict government is so short of money that it needs external money just to be on a life-support system. You can't get the basic functions of the state done unless we put money into the core budget of these countries. But, if we put money into the core budget, we know that there aren't the budget systems with integrity that mean that money will be well spent. And if all we do is put money in and close our eyes it's not just that the money is wasted -- that's the least of the problems -- it's that the money is captured. It's captured by the crooks who are at the heart of the political problem. And so inadvertently we empower the people who are the problem.

So building clean government means, provide money to the budget, but also provide a lot of scrutiny, which means a lot of technical assistance that follows the money.

What's the goal? If we follow this, what would we hope to achieve? That after 10 years, the focus on the construction sector would have produced both jobs and, hence, security -- because young people would have jobs -- and it would have reconstructed the infrastructure. So that's the focus on the construction sector. The focus on the basic service delivery through these independent service authorities would have rescued basic services from their catastrophic levels, and it would have given ordinary people the sense that the government was doing something useful. The emphasis on clean government would have gradually squeezed out the political crooks, because there wouldn't be any money in taking part in the politics. And so gradually the selection, the composition of politicians, would shift from the crooked to the honest. Where would that leave us? Gradually it would shift from a politics of plunder to a politics of hope.

Toward a moral progress.

Analyzing the relationship between science and human values; it's generally understood that questions of morality -- questions of good and evil and right and wrong -- are questions about which science officially has no opinion. It's thought that science can help us get what we value, but it can never tell us what we ought to value. And, consequently, most people think that science will never answer the most important questions in human life: questions like, "What is worth living for?" "What is worth dying for?" "What constitutes a good life?"

This is an illusion -- that the separation between science and human values is an illusion -- and actually quite a dangerous one at this point in human history. It's often said that science cannot give us a foundation for morality and human values, because science deals with facts, and facts and values seem to belong to different spheres. It's often thought that there's no description of the way the world is that can tell us how the world ought to be. But this is quite clearly untrue. Values are a certain kind of fact. They are facts about the well-being of conscious creatures.

Why is it that we don't have ethical obligations toward rocks? Why don't we feel compassion for rocks? It's because we don't think rocks can suffer. And if we're more concerned about our fellow primates than we are about insects, as indeed we are, it's because we think they're exposed to a greater range of potential happiness and suffering. Now, the crucial thing to notice here is that this is a factual claim: This is something that we could be right or wrong about. And if we have misconstrued the relationship between biological complexity and the possibilities of experience well then we could be wrong about the inner lives of insects.

And there's no notion, no version of human morality and human values is not at some point reducible to a concern about conscious experience and its possible changes. Even if you get your values from religion, even if you think that good and evil ultimately relate to conditions after death -- either to an eternity of happiness with God or an eternity of suffering in hell -- you are still concerned about consciousness and its changes. And to say that such changes can persist after death is itself a factual claim, which, of course, may or may not be true.

To speak about the conditions of well-being in this life, for human beings, we know that there is a continuum of such facts. We know that it's possible to live in a failed state, where everything that can go wrong does go wrong -- where mothers cannot feed their children, where strangers cannot find the basis for peaceful collaboration, where people are murdered

indiscriminately. And we know that it's possible to move along this continuum towards something quite a bit more idyllic.

And we that there are right and wrong answer to how to move in this space. Would adding cholera to the water be a good idea? Probably not. Would it be a good idea for everyone to believe in the evil eye, so that when bad things happened to them they immediately blame their neighbors? Probably not. There are truths to be known about how human communities flourish, whether or not we understand these truths. And morality relates to these truths.

In talking about values we are talking about facts. Now, of course our situation in the world can be understood at many levels -- from the level of the genome on up to the level of economic systems and political arrangements. But if we're going to talk about human well-being we are, of necessity, talking about the human brain. Because we know that our experience of the world and of ourselves within it is realized in the brain whatever happens after death. Even if the suicide bomber does get 72 virgins in the afterlife, in this life, his personality -- his rather unfortunate personality -- is the product of his brain. So the contributions of culture -- if culture changes us, as indeed it does, it changes us by changing our brains. And so therefore whatever cultural variation there is in how human beings flourish can, at least in principle, be understood in the context of a maturing science of the mind -- neuroscience, psychology, etc.

The value's are reduced to facts -- to facts about the conscious experience of conscious beings. And we can therefore visualize a space of possible changes in the experience of these beings. It’s like a kind of a moral landscape, with peaks and valleys that correspond to differences in the well-being of conscious creatures, both personal and collective. And one thing to notice is that perhaps there are states of human well-being that we rarely access, that few people access. And these await our discovery. Perhaps some of these states can be appropriately called mystical or spiritual. Perhaps there are other states that we can't access because of how our minds are structured but other minds possibly could access them.

I'm not saying that science is guaranteed to map this space, or that we will have scientific answers to every conceivable moral question. But if questions affect human well-being then they do have answers, whether or not we can find them. And just admitting this -- just admitting that there are right and wrong answers to the question of how humans flourish -- will change the way we talk about morality, and will change our expectations of human cooperation in the future.

For instance, there are 21 states in US where corporal punishment in the classroom is legal, where it is legal for a teacher to beat a child with a wooden board, hard, and raising large bruises and blisters and even breaking the skin. And hundreds of thousands of children, incidentally, are subjected to this every year.

And the rationale for this behavior is explicitly religious. The creator of the universe himself has told us not to spare the rod, lest we spoil the child -- this is in Proverbs 13 and 20, and 23. But we can ask the obvious question: Is it a good idea, generally speaking, to subject children to pain and violence and public humiliation as a way of encouraging healthy emotional development and good behavior? Is there any doubt that this question has an answer, and that it matters?

The notion of well-being is truly undefined, and seemingly perpetually open to be re-construed. And so, how therefore can there be an objective notion of well-being? Well,

consider by analogy, the concept of physical health. The concept of physical health is undefined. As we just heard from Michael Specter, it has changed over the years. The average life expectancy was probably 30. It's now around 80 in the developed world. There may come a time when we meddle with our genomes in such a way that not being able to run a marathon at age 200 will be considered a profound disability.

Notice that the fact that the concept of health is open, genuinely open for revision, does not make it vacuous. The distinction between a healthy person and a dead one is about as clear and consequential as any we make in science. Another thing to notice is there may be many peaks on the moral landscape: There may be equivalent ways to thrive; there may be equivalent ways to organize a human society so as to maximize human flourishing.

Now, why wouldn't this undermine an objective morality? Well think of how we talk about food and the fact that there are many right answers to the question, "What is food?" does not tempt us to say that there are no truths to be known about human nutrition. Many people worry that a universal morality would require moral precepts that admit of no exceptions.

So, for instance, if it's really wrong to lie, it must always be wrong to lie, and if you can find an exception, well then there's no such thing as moral truth. Why would we think this? Consider, by analogy, the game of chess. Now, if you're going to play good chess, a principle like, "Don't lose your Queen," is very good to follow. But it clearly admits some exceptions. There are moments when losing your Queen is a brilliant thing to do. There are moments when it is the only good thing you can do. And yet, chess is a domain of perfect objectivity. The fact that there are exceptions here does not change that at all.

We live in a world filled with destructive technology, and this technology cannot be un-invented; it will always be easier to break things than to fix them. It seems to me, therefore, patently obvious that we can no more respect and tolerate vast differences in notions of human well-being than we can respect or tolerate vast differences in the notions about how disease spreads, or in the safety standards of buildings and airplanes. We simply must converge on the answers we give to the most important questions in human life. And to do that, we have to admit that these questions have answers.

Chapter 7: A new era in state administration.

A new way to look at state management.

Someone once said that politics is a "showbiz for ugly people." There was even a story recently that scientists had thought about actually replacing rats in their experiments with politicians. And someone asked, "Why?" and they said, "Well, there's no shortage of politicians, no one really minds what happens to them and, after all, there are some things that rats just won't do."

There's one question in politics at the moment above all other, and it's this one: How do we make things better without spending more money? Because there isn't going to be a lot of money to improve public services, or to improve government, or to improve so many of the things that politicians talk about. So what follows from that is that if you think it's all about money - you can only measure success in public services in health care and education and policing by spending more money, you can only measure progress by spending money -- you're going to have a pretty miserable time.

But if you think a whole lot of other things matter that lead up to well being. That if we combine the right political philosophy, the right political thinking, with the incredible information revolution that has taken place, and that all of you know so much more about than there's an incredible opportunity to actually remake politics, remake government, remake public services, and achieve what's up on that slide, which is a big increase in our well-being.

So, starting with the political philosophy. It is my strongly believe that if you give people more power and control over their lives, if you give people more choice, if you put them in the driving seat, then actually, you can create a stronger and better society. And if you marry this fact with the incredible abundance of information that we have in our world today, I think you can completely remake politics, remake government, remake your public services.

The second thing we believe is we believe in going with the grain of human nature. Politics and politicians will only succeed if they actually try and treat with people as they are, rather than as they would like them to be. Now, if you combine this very simple, very conservative thought - go with the grain of human nature - with all the advances in behavioral economics, some of which we were just hearing about, again, we can achieve a real increase in well-being, in happiness, in a stronger society without necessarily having to spend a whole lot more money.

There were three passages of history: the pre-bureaucratic age, the bureaucratic age and what we now live in, a post-bureaucratic age. A simpler way of thinking of it is that we have gone from a world of local control, then we went to a world of central control, and now we're in a world of people control - local power, central power and now, people power.

If you were a king a thousand years ago, while it still took hours and hours and weeks and weeks to traverse your own country, there wasn't much you were in charge of. You weren't in charge of policing, justice, education, health, welfare. You could just about go to war and that was about it. This was the pre-bureaucratic age, an age in which everything had to be local. You had to have local control because there was no nationally-available information because travel was so restricted. So this was the pre-bureaucratic age.

Next part, all sorts of transport, travel information were possible, and this gave birth to the bureaucratic age. Suddenly, you have the big, strong, central state. It was able - but only it was able - to organize health care, education, policing, justice. And it was a world of, as I say, not local power, but now central power. It had sucked all that power up from the localities. It was able to do that itself.

The next great stage: the massive information revolution. Just consider this one fact: One hundred years ago, sending 10 words cost 50 dollars. Right now, we can send and receive huge quantities of information without it costing anything. So we're now living in a post-bureaucratic age, where genuine people power is possible.

Now, what does this mean for our politics, for our public services, for our government? How life can change? And this is so obvious, in a way; because you think about how all of us have changed the way we shop, the way we travel, the way that business is done. That is already happened; the information and Internet revolution has actually gone all the way through our societies in so many different ways, but it hasn't, in every way, yet touched our government.

So, how could this happen? There are three chief ways that it should make an enormous difference: in transparency, in greater choice and in accountability, in giving us that genuine people power. If we take transparency, in the old days, only the government could hold the information, and only a few elected people could try and grab that information and question it and challenge it. Now we can monitor, on a website, every single dollar spent by that government. Everything is searchable, is analyzable, is checkable.

Think of the huge change that means: Any business that wants to bid for a government contract can see what currently is being spent. Anyone thinking, "I could do that service better, I could deliver it cheaper," it's all available there. We have only, in government and in politics, started to scratch the surface of what people are doing in the commercial world with the information revolution. So, complete transparency will make a huge difference. Also we can make every contract available on the Internet so anyone can see what the terms are, what the conditions are, driving huge value for money, but also huge increases, in well-being as well.

Choice. Now we all shop online, compare online, do everything online, and yet this revolution has hardly touched the surface of public services like education, or health care or policing, and you're going to see this change massively. We should be making this change with the information revolution in every country, with searchable health sites, so you can see what operations work out properly, what records doctors have, the cleanliness of hospitals, who does best at infection control, all of the information that would once be locked in the Department of Health is now available for all of us to see.

And the third of these big changes: accountability. This is a huge change. Take for example, crime - instead of having a situation where only the police have the information about which crimes are committed where, and we have to employ people in government to try and hold the police to account, suddenly, we've got this vast opportunity for people power, where we, as citizens, can see what crimes are being committed - where, when and by whom - and we can hold the police to account. You can see what crime is committed where, and you have the opportunity to hold your police force to account. So those three ways - transparency, accountability and choice - will make a huge difference.

Also we can put in place an online voting system which can instant make accountable the politicians at all levels for their behavior. The ones who do not act into real interest of the people will be rapidly dismissed and not after 4 or 5 years of governing.

So, going with the grain of human nature you can achieve so much more. Now, we're got a huge revolution in understanding of why people behave in the way that they do, and a great opportunity to put that knowledge and information to greater use.

We want to get people to be more energy efficient. Why? It cuts fuel poverty, it cuts their bills, and it cuts carbon emissions at the same time. How do you do it? There were government information campaigns over the years when they tell you to switch off the lights when you leave the home. One government minister from UK once told to brush our teeth in the dark. I don't think they lasted very long. Look at what this does. This is a simple piece of behavioral economics. The best way to get someone to cut their electricity bill is to show them their own spending, to show them what their neighbors are spending, and then show what an energy conscious neighbor is spending. That sort of behavioral economics can transform people's behavior in a way that all the bullying and all the information and all the badgering from a government cannot possibly achieve. Other examples are recycling. We all know we need to recycle more. How do we make it happen? All the proof is that actually, if you pay people to recycle, if you give them a carrot rather than a stick, you can transform their behavior.

So what does all this add up to? You could fight for your country, you could die for your country, you could serve in your country's civil service, but you didn't really have the information and the knowledge and the ability to help build the stronger society in the way that you do now.

We must understand that there is more to life than money, and more that we should try and measure than money. And it is Robert Kennedy's beautiful description of why gross national product captures so little: It "does not allow for the health of our children, the quality of their education, or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country. It measures everything, in short, except that which makes life worthwhile."
A noble sentiment that was beautifully said 40 years ago, a beautiful dream originated 40 years ago, but now with the huge advances in information technology, with the massive changes in behavioral economics, with all that we know about how you advance well-being, that if we combine those insights of giving power to people, and using information to make that possible, and using the insight of going with the grain of human nature, while at the same time, understanding why people behave in the way they do, it is a dream more easy to realize today than it was when it was made in that beautiful speech 40 years ago.

How to program better administration

Meet Al. Al is a fire hydrant in the city of Boston. Al it’s interested is looking for someone to shovel him out when he gets snowed in, because he knows he's not very good at fighting fires when he's covered in four feet of snow. Now how did he come to be looking for help in this very unique manner? A team from Code for America program was in Boston in February, and it snowed a lot in February that year. And they noticed that the city never gets to digging out these fire hydrants. But one fellow in particular, a guy named Erik Michaels Ober, noticed

something else, and that's that citizens are shoveling out sidewalks right in front of these things. So he did what any good developer would do, he wrote an app.

It's a cute little app where you can adopt a fire hydrant. So you agree to dig it out when it snows. If you do, you get to name it, and he called the first one Al. And if you don't, someone can steal it from you. So it's got cute little game dynamics on it. This is a modest little app. It's probably the smallest of the 21 apps that the fellows wrote last year. But it's doing something that no other government technology does. It's spreading virally.

There's a guy in the I.T. department of the City of Honolulu who saw this app and realized that he could use it, not for snow, but to get citizens to adopt tsunami sirens. It's very important that these tsunami sirens work, but people steal the batteries out of them. So he's getting citizens to check on them. And then Seattle decided to use it to get citizens to clear out clogged storm drains. And Chicago just rolled it out to get people to sign up to shovel sidewalks when it snows. So we now know of nine cities that are planning to use this. And this has spread just frictionless, organically, naturally.

If you know anything about government technology, you know that this isn't how it normally goes. Procuring software usually takes a couple of years. We had a team that worked on a project in Boston last year that took three people about two and a half months. It was a way that parents could figure out which were the right public schools for their kids. We were told afterward that if that had gone through normal channels, it would have taken at least two years and it would have cost about two million dollars. And that's nothing. There is one project in the California court system right now that so far cost taxpayers two billion dollars, and it doesn't work. And there are projects like this at every level of government.

So an app that takes a couple of days to write and then spreads virally, that's sort of a shot across the bow to the institution of government. It suggests how government could work better -- not more like a private company, as many people think it should. And not even like a tech company, but more like the Internet itself. And that means permission less, it means open, it means generative. And that's important. But what's more important about this app is that it represents how a new generation is tackling the problem of government -- not as the problem of an ossified institution, but as a problem of collective action. And that's great news, because, it turns out, we're very good at collective action with digital technology.

Now there's a very large community of people that are building the tools that we need to do things together effectively. It's not just Code for America fellows, there are hundreds of people all over the country that are standing and writing civic apps every day in their own communities. They haven't given up on government. They are frustrated as hell with it, but they're not complaining about it, they're fixing it. And these folks know something that we've lost sight of. And that's that when you strip away all your feelings about politics and the line at the DMV and all those other things that we're really mad about, government is, at its core, in the words of Tim O'Reilly, "What we do together that we can't do alone."

A lot of people have given up on government. And if you're one of those people, I would ask that you reconsider, because things are changing. Politics is not changing; government is changing. And because government ultimately derives its power from us, remember "We the people?" How we think about it is going to effect how that change happens.

Let’s see how a modern call center for the services and information line can work. It's generally where you will get if you call 311 in your city. If you should ever have the chance

to staff your city's call center and you will find that people call government with a very wide range of issues, including having an opossum stuck in your house.

Boston doesn't just have a call center. It has an app, a Web and mobile app, called Citizens Connect. Now we didn't write this app. This is the work of the very smart people at the Office of New Urban Mechanics in Boston. So one day -- this is an actual report -- this came in: "Opossum in my trashcan. Can't tell if it's dead. How do I get this removed?" But what happens with Citizens Connect is different. So Scott was speaking person-to-person. But on Citizens Connect everything is public, so everybody can see this. And in this case, a neighbor saw it. And the next report we got said, "I walked over to this location, found the trashcan behind the house. Opossum? Check. Living? Yep. Turned trashcan on its side. Walked home. Goodnight sweet opossum."

Pretty simple; this is the digital meeting the physical. And it's also a great example of government getting in on the crowd-sourcing game. But it's also a great example of government as a platform. And I don't mean necessarily a technological definition of platform here. I'm just talking about a platform for people to help themselves and to help others. So one citizen helped another citizen, but government played a key role here. It connected those two people. And it could have connected them with government services if they'd been needed, but a neighbor is a far better and cheaper alternative to government services. When one neighbor helps another, we strengthen our communities. We call animal control, it just costs a lot of money.

One of the important things we need to think about government is that it's not the same thing as politics. And most people get that, but they think that one is the input to the other. That our input to the system of government is voting. Now how many times have we elected a political leader -- and sometimes we spend a lot of energy getting a new political leader elected -- and then we sit back and we expect government to reflect our values and meet our needs, and then not that much changes? That's because government is like a vast ocean and politics is the six-inch layer on top. And what's under that is what we call bureaucracy. And we say that word with such contempt. But it's that contempt that keeps this thing that we own and we pay for as something that's working against us, this other thing, and then we're disempowering ourselves.

People seem to think politics is sexy. If we want this institution to work for us, we're going to have to make bureaucracy sexy. Because that's where the real work of government happens. We have to engage with the machinery of government. So that's Occupy the SEC movement has done. Have you seen these guys? It's a group of concerned citizens that have written a very detailed 325 page report that's a response to the SEC's request for comment on the Financial Reform Bill. That's not being politically active, that's being bureaucratically active.

Now for those of us who've given up on government, it's time that we asked ourselves about the world that we want to leave for our children. You have to see the enormous challenges that they're going to face. Do we really think we're going to get where we need to go without fixing the one institution that can act on behalf of all of us? We can't do without government, but we do need it to be more effective. The good news is that technology is making it possible to fundamentally reframe the function of government in a way that can actually scale by strengthening civil society. And there's a generation out there that's grown up on the Internet, and they know that it's not that hard to do things together, you just have to architect the systems the right way.

This is a generation that's grown up taking their voices pretty much for granted. They're not fighting that battle that we're all fighting about who gets to speak; they all get to speak. They can express their opinion on any channel at any time, and they do. So when they're faced with the problem of government, they don't care as much about using their voices. They're using their hands. They're using their hands to write applications that make government work better.

And those applications let us use our hands to make our communities better. That could be shoveling out a hydrant, pulling a weed, turning over a garbage can with an opossum in it. And certainly, we could have been shoveling out those fire hydrants all along, and many people do. But these apps are like little digital reminders that we're not just consumers, and we're not just consumers of government, putting in our taxes and getting back services. We're more than that, we're citizens. And we're not going to fix government until we fix citizenship.

A science based society

The next big thing in state nation administration it will not be politics as we know it. The next step, taking in consideration all the power shifts that we see today in the world, it does not consist only in the move of the power from West to East, the power also moves from governments to the people. This is the trend and this will be the future of state administration. Eventually we will end up in a form of a science and technological based society. Scientist will be the next "politicians". Scientist will be at the top of society and not our current criminal elite with their stupid peoples shown up front, peoples like G.W. Bush junior which excel at stupidity or a liar like Obama with his slogan "Yes, we can." transformed in "Actually we can't. " Are we supposed to think even for a minute that they are truly the persons in charge with the destiny of a country or of the world?

It is indeed a dangerous thought to think that a single person or a small group of peoples are ruling over a country. When that's happen we always end up in abuses. A country must be driven by its peoples at large and now for the first time in history, due to the new communication technology like the internet, we can involve every person in the decision making process on how the society or the community should be run. We all and not just a few, we can decide on what laws should we have or which peoples should be chosen to run social enterprises. And if they are not capable of that we can dismiss them immediately and not after 4 years in the office.

In today's world we must see the politicians as football team players. Do you really believe that they are in charge with conducting the club? That they are deciding something? No. They are changed, sold or eliminated as the management of the club desire. We are left arguing and falsely debate about how good or bad one of the players were. In fact the real decisions are made by the owner of the club and if we say that that owner owns all the football teams from the championships we're getting close to who and how the society its run. The politicians or better said "the players" are put in front just to create an illusion. The different political parties are just like the above mentioned footballs club. If you will be in control of that clubs do you really care about who wins the championships. I guess not. It doesn't matter. That's way the political speech it's almost the same at every parties. One say"We will create more jobs." The other says "we will create a better health system." While the words sound reasonable, this is not how the problem must be put. It is not about more jobs or better health system. It is about administration. Supposedly they manage the jobs and the health, but how about education, or crime, or immigration, etc. Well, maybe at the next election, right? No! That's way it's really all about an administrative system. Why we never hear about a total transparent administrative system in which every act, every document of each agency no

matter if it's a city hall, an hospital, a police station, a minister, etc; must be made public, every dollar spent, every dollar taxed, every contract signed, every international document, everything from the public domain must be made… public. There is not one reason against that. But you do not hear that, do you? Remember "The very word "secrecy" is repugnant in a free and open society…" (J.F.K.).

The fact that today we "elect" some peoples and some parties once every 4 years in the office, gives them the time to arrange "the stage", to create the "problems" and give you a reason to elect "a solution".

That's right people, the game it's rigged and it's nothing that we can do about it. Or maybe we can…

A science based society (has nothing in common with today's technocrats) it must respond to the challenges with scientific arguments. I envision this type of society as an open source society, with an open and permanent voting system, which allows the peoples to permanently express their choices and participate in the government act at all levels. A total transparent society in witch every one can see the whole picture and decide accordingly. A participatory society in which everyone will be involved and can and must proposed solutions to whatever challenges we will encounter. This is the true democracy.

Aristotle once described the ruling power compared to personal or public interest as follow: if one person rules in its personal interest it's called "tyranny"; if one person rules in public interest it's called "monarchy"; if a few persons rules in their personal interests it's called "oligarchy"; if a few persons rules in the public interest, it's called "aristocracy"; if many peoples rules in their personal interest it's called "democracy"; but if many peoples serves the public interest, then this it's called "politeia".

As Aristotle shown, democracy it's not the best political system that there is; "politeia" it's the best political system that exist. Simple democracy can not be enough as it generates vast quantities of corruption. In a simple democracy, every man it's for himself; and every group it serves his own interests. That's way today we have a corupt ruling elite at the top.

What Aristotle called "politeia"; can today be named as "direct participatory democracy" or better yet "open society system".

A new election system

There are a few things that bring us humans together in the way that an election does. We stand in elections; we vote in elections; we observe elections. Our democracies rely on elections. We all understand why we have elections, and we all leave the house on the same day to go and vote. We cherish the opportunity to have our say, to help decide the future of the country. The fundamental idea is that politicians are given mandate to speak for us, to make decisions on our behalf that affect us all. Without that mandate, they would be corrupt.

Well unfortunately, power corrupts, and so people will do lots of things to get power and to stay in power, including doing bad things to elections. You see, even if the idea of the election is perfect, running a countrywide election is a big project, and big projects are messy. Whenever there is an election, it seems like something always goes wrong, someone tries to cheat, or something goes accidentally awry -- a ballot box goes missing here, chads are left hanging over here.

To make sure as few things as possible go wrong, we have all these procedures around the election. So for example, you come to the polling station, and a poll station worker asks for your ID before giving you a ballot form and asking you to go into a voting booth to fill out your vote. When you come back out, you get to drop your vote into the ballot box where it mixes with all the other votes, so that no one knows how you voted.

Well, what I want us to think about for a moment is what happens after that, after you drop your vote into the ballot box. And most people would go home and feel sure that their vote has been counted, because they trust that the election system works. They trust that election workers and election observers do their jobs and do their jobs correctly. The ballot boxes go to counting places. They're unsealed and the votes are poured out and laboriously counted. Most of us have to trust that that happens correctly for our own vote, and we all have to trust that that happens correctly for all the votes in the election. So we have to trust a lot of people. We have to trust a lot of procedures. And sometimes we even have to trust computers. So imagine hundreds of millions of voters casting hundreds of millions of votes, all to be counted correctly and all the things that can possibly go wrong causing all these bad headlines, and you cannot help but feel exhausted at the idea of trying to make elections better.

Well in the face of all those bad headlines, researchers have taken a step back and thought about how we can do elections differently. They've zoomed out and looked at the big picture. And the big picture is this: elections should be verifiable. Voters should be able to check that their votes are counted correctly, without breaking election secrecy, which is so very important. The technology now allowed us to create perfect transparent elections. The whole process can be made so transparent that news media and international observers and anyone who wants to can download all the election data and do the count themselves. They can check that all the votes were counted correctly. They can check that the announced result of the election is the correct one. And these are elections by the people, for the people. So the next step for our democracies is transparent and verifiable elections.

New facts

The first half of the 20th century was an absolute disaster in human affairs, a cataclysm. We had the First World War, the Great Depression, the Second World War and the rise of the communist nations. And each one of these forces split the world, tore the world apart, divided the world. And they threw up walls -- political walls, trade walls, transportation walls, communication walls, iron curtains -- which divided peoples and nations.

It was only in the second half of the 20th century that we slowly began to pull ourselves out of this abyss. Trade walls began to come tumbling down. We globalized the world. And what does that mean? It means that we extended cooperation across national boundaries; we made the world more cooperative. Transportation walls came tumbling down. You know in 1950 the typical ship carried 5,000 to 10,000 tons worth of goods. Today a container ship can carry 150,000 tons; it can be manned with a smaller crew; and unloaded faster than ever before. Communication walls, -- the Internet -- have come tumbling down. And of course the iron curtains, political walls have come tumbling down.

Now all of this has been tremendous for the world. Trade has increased. In 1990, exports from China to the United States: 15 billion dollars. By 2007: over 300 billion dollars. And perhaps most remarkably, at the beginning of the 21st century, really for the first time in modern history, growth extended to almost all parts of the world. So China, beginning around 1978, around the time of the death of Mao, growth ten percent a year. Year after year after year,

absolutely incredible. Never before in human history have so many people been raised out of such great poverty as happened in China. China is the world's greatest anti-poverty program over the last three decades. India, starting a little bit later, but in 1990, begetting tremendous growth. Incomes at that time less than $1,000 per year. And over the next 18 years have almost tripled. Growth of six percent a year. Now Africa, Sub-Saharan Africa -- Sub-Saharan Africa has been the area of the world most resistant to growth. And we can see the tragedy of Africa as growth was negative. People were actually getting poorer than their parents, and sometimes even poorer than their grandparents had been. But at the end of the 20th century, the beginning of the 21st century, we saw growth in Africa. So, there's a reason for optimism, because the best is yet to come. Now why?

On the cutting edge today it's new ideas which are driving growth. And by that I mean its products for which the research and development costs are really high, and the manufacturing costs are low. More than ever before it is these types of ideas which are driving growth on the cutting edge. Now ideas have this amazing property. Thomas Jefferson expressed this quite well, "He who receives an idea from me receives instruction himself, without lessening mine. As he who lights his candle at mine receives light without darkening me. Or to put it slightly differently: one apple feeds one man, but an idea can feed the world." Now this is not new. But what is new is that the greater function of ideas is going to drive growth even more than ever before. This provides a reason why trade and globalization are even more important, more powerful than ever before, and are going to increase growth more than ever before.

Suppose that there are two diseases: one of them is rare, the other one is common, but if they are not treated they are equally severe. If you had to choose, which would you rather have: the common disease or the rare disease? Common, the common, that's absolutely right, and why? Because there are more drugs to treat common diseases than there are to treat rare diseases. The reason for this is incentives. It costs about the same to produce a new drug whether that drug treats 1,000 people, 100,000 people, or a million people. But the revenues are much greater if the drug treats a million people. So the incentives are much larger to produce drugs which treat more people. To put this differently: larger markets save lives. In this case misery truly does love company.

Now think about the following: if China and India were as rich as the United States is today, the market for cancer drugs would be eight times larger than it is now. Now we are not there yet, but it is happening. As other countries become richer the demand for these pharmaceuticals is going to increase tremendously. And that means an increase incentive to do research and development, which benefits everyone in the world. Larger markets increase the incentive to produce all kinds of ideas, whether it's software, whether it's a computer chip, whether it's a new design. For the Hollywood people, this even explains why action movies have larger budgets than comedies: it's because action movies translate easier into other languages and other cultures, so the market for those movies is larger. People are willing to invest more, and the budgets are larger.

If larger markets increase the incentive to produce new ideas, how do we maximize that incentive? It's by having one world market, by globalizing the world. The way I like to put this is: one idea. Ideas are meant to be shared, so one idea can serve one world, one market. One idea, one world, one market. Well how else can we create new ideas? That's one reason. Globalize trade. How else can we create new ideas? Well, more idea creators. Now idea creators, they come from all walks of life.

Now, today, less than one-tenth of one percent of the world's population are scientists and engineers. The United States has been an idea leader. A large fraction of those people are in the United States. But the U.S. is losing its idea leadership. And for that I am very grateful. That is a good thing. It is fortunate that we are becoming less of an idea leader because for too long the United States, and a handful of other developed countries, has shouldered the entire burden of research and development. But consider the following: if the world as a whole were as wealthy as the United States is now there would be more than five times as many scientists and engineers contributing to ideas which benefit everyone, which are shared by everyone. I think of the great Indian mathematician, Ramanujan. How many Ramanujans are there in India today toiling in the fields, barely able to feed themselves, when they could be feeding the world? Now we're not there yet. But it is going to happen in this century. The real tragedy of the last century is this: if you think about the world's population as a giant computer, a massively parallel processor, then the great tragedy has been that billions of our processors have been off line. But in this century China is coming on line. India is coming on line. Africa is coming on line. We will see an Einstein in Africa in this century.

In 1996 less than one million new university students in China per year; 2006: over five million. This means we all benefit when another country gets rich. We should not fear other countries becoming wealthy. That is something that we should embrace -- a wealthy China, a wealthy India, a wealthy Africa. We need a greater demand for ideas and a greater supply of ideas for the world. Globalization is increasing the demand for ideas, the incentive to create new ideas. Investments in education are increasing the supply of new ideas.

In fact if you look at world history you can see some reasons for optimism. From about the beginnings of humanity to 1500: zero economic growth, nothing. 1500 to 1800: maybe a little bit of economic growth, but less in a century than you expect to see in a year today. 1900s: maybe one percent. Twentieth century: a little bit over two percent. Twenty-first century could easily be 3.3, even higher percent. Even at that rate, by 2100 average GDP per capita in the world will be $200,000. That's not U.S. GDP per capita, which will be over a million, but world GDP per capita -- $200,000. That's not that far. We won't make it. But some of our grandchildren probably will.

What else? Oil. This is a big topic. Increased growth is going to push up demand for that. But a higher price of oil is not necessarily a bad thing. Moreover, as everyone knows, it’s energy, not oil, which counts. And higher oil prices mean a greater incentive to invest in energy R&D. As oil prices go up, energy patents go up. The world is much better equipped to overcome an increase in the price of oil today, than ever in the past. One idea, one world, one market.

So long as we hew to these two ideas: to keep globalizing world markets, keep extending cooperation across national boundaries, and keep investing in education. Now the United States has a particularly important role to play in this: to keep their education system globalized, to keep their education system open to students from all over the world, because their education system is the candle that other students come to light their own candles. Now remember here what Jefferson said, "When they come and light their candles at ours, they gain light, and we are not darkened." But Jefferson wasn't quite right, was he? Because the truth is, when they light their candles at ours, there is twice as much light available for everyone.

Chapter 8: Oil, energy and the future

It has taken 50 to 300 million years to form, and yet we have managed to burn roughly half of all global oil reserves in merely 125 years or so. The world now consumes 85 million barrels of oil per day, or 40,000 gallons per second, and demand is growing exponentially.

Oil production in 33 out of 48 out countries has now peaked, including Kuwait, Russia and Mexico. Global oil production is now also approaching an all time peak and can potentially end our Industrial Civilization. The most distinguished and prominent geologists, oil industry experts, energy analysts and organizations all agree that big trouble is brewing.

The world is not running out of oil itself, but rather its ability to produce high-quality cheap and economically extractable oil on demand. After more than fifty years of research and analysis on the subject by the most widely respected & rational scientists, it is now clear that the rate at which world oil producers can extract oil is reaching the maximum level possible. This is what is meant by Peak Oil. With great effort and expenditure, the current level of oil production can possibly be maintained for a few more years, but beyond that oil production must begin a permanent & irreversible decline. The Stone Age did not end because of the lack of stones, and the Oil Age won't end because of lack of oil. The issue is lack of further growth, followed by gradual, then steep decline. Dr King Hubbert correctly predicted peaking of USA oil production in the 1970's on this basis.

It is now widely acknowledged by the worlds leading petroleum geologists that more than 95 percent of all recoverable oil has now been found. We therefore know, within a reasonable degree of certainty, the total amount of oil available to us. Any oil well has roughly the same life cycle where the production rate peaks before it goes into terminal decline. This happens when about half of the oil has been recovered from the well. We have consumed approximately half of the world's total reserve of about 2.5 trillion barrels of conventional oil in the ground when we started drilling the first well at a current rate of over 30 billion a year, meaning the world is nearing its production plateau.

Worldwide discovery of oil peaked in 1964 and has followed a steady decline since. According to industry consultants IHS Energy, 90% of all known reserves are now in production, suggesting that few major discoveries remain to be made. There have been no significant discoveries of new oil since 2002. In 2001 there were 8 large scale discoveries, and in 2002 there were 3 such discoveries. In 2003 there were no large scale discoveries of oil. Given geologists' sophisticated understanding of the characteristics that would indicate a major oil find, is is highly unlikely that any area large enough to be significant has eluded attention and no amount or kind of technology will alter that. Since 1981 we have consumed oil faster than we have found it, and the gap continues to widen. Developing an area such as the Artic National Wildlife Refuge in Alaska has a ten year lead time and would ultimately produce well under 1% of what the world currently consumes (IEA).

Oil is now being consumed four times faster than it is being discovered, and the situation is becoming critical.

The Saudi Arabia Case

With more than fifty oil-producing countries now in decline, focus on the oil-rich Middle East has sharpened dramatically. Countries of the Middle East have traditionally been able to

relieve tight oil markets by increasing production, but, as the this region nears its own oil peak; any relief it can provide is limited and temporary.

Saudi Arabia is a major oil producer with 73% of all incremental world demand being met by this country. The worrying fact is that 90% of their production comes from only 5 mega fields (one is the Ghawar field which is the biggest ever discovered), and are all at risk of unplanned production collapse. In 2004 there were warning signs of production falling into depletion. For years, Aramco, the Saudi national company, use secondary recovery techniques by injecting enormous amounts of seawater (7 million barrels daily) into their biggest field to boost production. These methods have only temporary effects, and lead to accelerated rates of depletion in the future.

Matt Simmons, long time energy analyst who studied energy for 34 years, in his book “Twilight in the Desert effectively confronts the complacent belief that there are ample oil reserves in Saudi Arabia and has created a compelling case that Saudi Arabia production will soon reach a peak, after which its production will decline and the world will be confronted with a catastrophic oil shortage. The factual basis of the book is over 200 technical papers published over the last 20 years which individually detail problems with particular wells or particular fields, but which collectively demonstrate that the entire Saudi oil system is “old and fraying with reserves deliberately vastly overestimated.

Geologist Dr Colin Campbell in a 1998 article in Scientific American also details numerous discrepancies about estimates in Middle East reserves. The extent of reserves reported remained amazingly constant from year to year and then jumped dramatically. A similar unexplainable jump occurred in other countries in the Middle East, sometimes even in the total absence of exploration, strongly suggesting that OPEC's reserves are overstated.

Peak Oil Imminent

The only uncertainty about peak oil is the time scale, which is difficult to predict accurately. Over the years, accurate prediction of oil production was confronted by fluctuating ecological, economical, and political factors, which imposed many restrictions on its exploration, transportation, and supply and demand. At the end of 2009, the Kuwait university and the Kuwait Oil company collaborated in a study to predict the peak date using multicylic models, depending on the historical 2 oil production trend and known oil reserves of 47 major oil production countries, to overcome the limitations and restrictions associated with other previous models. Based on this model, world production is estimated to peak in 2014. Other experts, oil companies and analyst firm estimate the peak date between now and around 2020. What's certain is that the global production will go into a permanent decline within our generation.

"One of nature's biggest forces is exponential growth" - Albert Einstein

At a current average global consumption growth rate of 2% annually (1995-2005), by 2025 the world will need 50% more oil (120 mbd), and the International Energy Agency (IEA) admits that Saudi will have to double oil production to achieve this, which is not feasible in even the most optimistic scenario. And that's not even taking into account that 80% of the world is only just starting to use oil & gas. In recent years, energy demands from mostly emerging economies have increased dramatically in populous countries as their oil consumption per capita grows. The International Energy Agency estimates that 93% of all

incremental demand comes from non-OECD countries. Therefore, in time oil prices will continue to rise.

Based on Simmon's analysis, sudden and sharp oil production declines could happen at any time. Even under the most optimistic scenario, Saudi Arabia may be able to maintain current rates of production for several years, but will not be able to increase production enough to meet the expected increase in world demand. There is no likely scenario that some new frontier can replace Middle East oil declines.

From WikiLeaks it has emerged that Senior Saudi energy officials have privately warned US and European counterparts that OPEC would have an "extremely difficult time meeting demand and that the reserves of Saudi have been overstated by as much as 40%.

Exxon Mobil Corporation, one of the world's largest publicly owned petroleum companies, is the most forthright of the major oil companies having had the courage and honesty to quietly publish the declining discovery trend, based on sound industry data with reserve revisions properly backdated. Furthermore, the company is running page-size advertisements in European papers stressing the immense challenges to be faced in meeting future energy demand, hinting that the challenges might not be met despite its considerable expertise. Chevron recently joined their campaign publishing an advertisement in national newspapers stating that the "Era of Easy Oil is Over".

"Initially it will be denied. There will be much lying and obfuscation. Then prices will rise and demand will fall. The rich will outbid the poor for available supplies."

The fallacy of Alternatives

The public, business leaders and politicians are all under the false assumption that oil depletion is a straightforward engineering problem of exactly the kind that technology and human ingenuity have so successfully solved before. Technology itself has become a kind of supernatural force, although in reality it is just the hardware and programming for running that fuel, and governed by the basic laws of physics and thermodynamics. Much of our existing technology simply won't work without an abundant underlying fossil fuel base. In addition, physicist Jonathan Huebner has concluded in The History of Science and Technology that the rate of innovation in the US peaked in 1873, and the current rate of innovation is about the same as it was in 1600. According to Huebner, by 2024 it will have slumped to the same level as it was in the Dark Ages. Hence, without sufficient innovation and a comfortable surplus of fossil fuels, we may simply lack the tools to move forward.

With this energy base dwindling, there is simply not enough time to replace a fluid so cheap, abundant and versatile. It is rich in energy, easy to use, store, and transport. Nothing has the bang for the buck of oil, and nothing can replace it in time - either separately or in combination. Wind, waves and other renewable are all pretty marginal and also take a lot of energy to construct and require a petroleum platform to work off.

Natural gas is a diminishing resource as well and cannot satisfy the growing demand for energy. US Gas supplies were so low in 2003 after a harsh winter that to preserve life and property supplies were close to being cut off to manufacturers, electric plants and lastly homes.

Ethanol has a net energy value of zero (not accounting for soil and water damage and other costs due to unsustainable agricultural practices) - it is subsidized as a boon to agribusiness and would have a negligible effect.

Solar energy produces marginal net energy, but are still decades away at best from being a viable substitute given the recent rate of progress in efficiency and costs (averaging about five percent a year) and is nowhere ready to meet the world's energy needs. More importantly, solar photovoltaic cells (PVC) are built from hydrocarbon feed stocks and therefore require excess resources. It is estimated that a global solar energy system would take a century to build and would consume a major portion of world iron production (Foreign Affairs, Rhodes).

The widespread belief that hydrogen is going to save the day is a good example of how delusional people have become. Hydrogen fuel cells are not an energy source at all, but are more properly termed a form of energy storage. Free hydrogen does not exist on this planet. It requires more energy to break a hydrogen bond than will ever be garnered from that free hydrogen. The current source of hydrogen is natural gas - that is, a hydrocarbon. In the envisioned system of solar PVC & hydrogen fuel cells, every major component of the system, from the PVC to the fuel cells themselves will require hydrocarbon energy and feedstocks. The oil age will never be replaced by a hydrogen fuel-cell economy unless a major development will take place.

Coal is abundant, but its net energy profile is poor compared to oil and its conversion process to synthetic fuels is very inefficient. Coal would have to be mined at much higher rates to replace declining oil field. In addition, coal production is extremely harmful to the environment. One large coal burning electric plant releases enough radioactive material in a year to build two atomic bombs, apart from emitting more greenhouse gases than any other fuels. Coal is implicated in mercury pollution that causes 60.000 cases of brain damage in newborn children every year in the USA. Resorting to coal would be a very big step backwards and what we may face then may be more like the Dim Ages. More importantly, coal is distributed very unevenly with the top three countries (China, USA, USSR) possessing almost 70% of total. Much of the current oil and gas supply is in low-population countries, such as Saudi Arabia, that cannot possibly use all of the production for themselves. They are hence quite willing, indeed eager, to sell it to other countries. When oil and gas are gone, and only coal remains, and the few (large-population) countries that possess it need all of it for their own populations, it will be interesting to see how much is offered for sale to other countries.

Obtaining usable oil from tar sands requires huge amounts of energy, as it has to be mined and washed with super hot water. From an energy balance, it takes the equivalence of two barrels of oil to produce three, which is still positive but poor in terms of energy economics. In the early days of conventional oil, this ratio used to be one to thirty.

Nuclear power plants are simply too expensive and take ten years to build, relying on a fossil fuel platform for all stages of construction, maintenance, and extracting & processing nuclear fuels. Additionally, uranium is also a rare and finite source with its own production peak. Since 2006, the uranium price has already more than doubled.

Nuclear fusion is the kind of energy that the world needs. However, mastering it has been 25 years away for the past 50 years, and still is...

Fossil fuels allowed us to operate highly complex systems at gigantic scales. Renewables are simply incompatible in this context and the new fuels and technologies required would simply take a lot more time to develop than available and require access to abundant supplies of cheap fossil fuels, putting the industrial adventure out of business.

In an interview with The Times, former Shell CEO Jeroen van der Veer calls for a "reality check and warns that the world's energy crisis cannot be solved by renewables. "Contrary to public perceptions, renewable energy is not the silver bullet that will soon solve all our problems. Just when energy demand is surging, many of the world's conventional oilfields are going into decline. The world is blinding itself to the reality of its energy problems, ignoring the scale of growth in demand from developing countries and placing too much faith in renewable sources of power. Alternative energies will never replace fossil fuels at the scale, rate and manner at which the world currently consumes them, and humankind's ingenuity will simply not overcome the upper limits of geology & physics.

Mitigation Strategies?

Peak Oil represents a unique challenge and unlike 1973, peaking won't be brief but permanent. The inescapable conclusion is that the scale and complexity of the problems that must be resolved to avert a permanent crisis are enormous and almost inconceivable. More than a decade will be required, under the most favorable circumstances, for the collective contributions of substitutes to produce meaningful results. Understanding Net Energy is crucial. Optimists may argue that technology, the market, brilliant scientists, and comprehensive government programs are going to hold things together. However, with an acute lack of awareness, time, knowledge, capital, energy, political will, and international collaboration, it is difficult to see how business can continue as usual. This is a startling conclusion, but it would be the most logical and likely outcome of a process that has been building for decades. Addictions are hard to shake...

"You cannot solve this world's problems with the same thinking that created them" - Albert Einstein

Preparations

The experts and politicians have no plan B to fall back on. On a global scale Peak Oil is a problem without a solution. No amount of savings will help us if there is no more oil to purchase. We need to start planning for alternative sources of energy now. If we wait until we are given no other option, it could be chaos.

It is extremely difficult to gather and process the enormous amount of information available and figure out what to do about it. Is it not a problem with an immediate solution or as some say a condition without a remedy. You must not only be able to survive the crash, but continue afterward. We must shortly choose a new path, or one will be forced upon us

In the short time available, attempts to make collective changes are most likely to fail. Energy expert Simmons says that once energy peaks, the shock will be greater than anyone could imagine, while there is no solution to the problem other than to pray.

However, on the level of the individual/family there is much that can be done at relatively low cost to not only preparing for an economic crash, but to leapfrog past it to a post oil paradigm.

While the present infrastructure continues to function you still have vast resources disposable that are only a click away. Once a crisis begins, it may be too late.

There is probably no cluster of solutions which do not involve some major changes in lifestyles, especially for the global affluent. Peak Oil presents the potential for quite catastrophic upheavals, but also some more hopeful possibilities, a chance to address many underlying societal problems, and the opportunity return to simpler, healthier and more community oriented lifestyles.

Hope for the best, Prepare for the worst, and accept whatever comes.

- the majority of the preparation (perhaps as much as 2/3) is mental preparation. Acceptance of a new future is crucial and knowledge about Peak Oil will give you a new perspective on life and the future and will serve as an excellent guidance when making important decisions in areas such as careers, real estate and retirement, even absent a well defined 'plan B'.

- protection of your wealth is a crucial step, and having many of your assets hedged against inflation, in my opinion, is never going to hurt you, even if a peak oil crisis fails to materialize in the short or medium term future. Purchasing power will most likely have a positive impact on survival chances during a crisis.

- if you think the crisis is going to be severe, if you can afford it, it would be a good idea to plan some sort of safe haven, at least 200 miles or so from any major city / metropolitan area. Where this should be is a difficult question, but there is some in-depth information and research in the Peak Oil Survival guide about which countries are likely to fare better than others.

- I am fairly pessimistic about the feasibility (especially long-term) of isolated retreats. It is going to involved extensive, informed planning tailored to the precise needs of the people who will use it. The problems that you must resolve in making such an arrangement viable are enormous and most likely unachievable.

- land ownership laws may be meaningless in a post-oil world

- it is useless to be well prepared if you are in the wrong place to start with. Some countries around the globe will without doubt suffer much more than others as a result of a Peak Oil crisis. The odds of eventually being discovered are not negligible and will go up as a function of general population density. And then, once you have been discovered, the chances of you becoming a target of jealous & needy thieves, mobs or organized gangs much depend on how relatively well-off a country is as a whole during a global crisis. As an example there is the story about a village in India during a famine. After a while, the starving villagers noticed that some villagers did not seem to be as starving as the rest of them. The end result was that the well off who had stored food were killed and the food stolen. You may be better off ill-prepared, but in the right place than vice-versa. There are going to be some countries that may remain relatively immune, based on their geographic position and potential degree of self-sufficiency, where ambient chances of survival are relatively higher. This is why the focus of my research & planning is on individual countries.

- when considering strategic relocation and you want to also take into account climate change, an excellent and very recent source of information on average predicted temperature changes is the BBC site that ran an experiment involving millions of computers from around the

world. In its conclusions, countries like New Zealand will be relatively unaffected, while other areas like Asia and Central America will be greatly affected.

- you can never be sure what will happen, and it is extremely difficult to cross that mental barrier to jump into action. Any life impacting decision you make, you must be able to live with until the crisis unfolds, even if this is still a decade away.

HISTORY AS A GUIDE TO SURVIVAL....

For a year five experts ditched theory for practice, running a Welsh farm using 17th Century methods. What lessons for modern living did they learn? The BBC series Tales from the Green Valley follows historians and archaeologists as they recreate farm life from the age of the Stuarts. They wear the clothes, eat the food and use the tools, skills and technology of the 1620s.

It was a time when daily life was a hard grind, intimately connected with the physical environment where routines were dictated by the weather and the seasons. A far cry from today's experience of the countryside, which for many involves a bracing walk ahead of a pub lunch.

While few would choose to live a 17th Century lifestyle, the participants found they picked up some valuable tips for modern life.

1. Know the neighbors. Today it's possible to live alone, without knowing anyone within a 20-mile radius (the same goes for townies). That was simply not possible in the past - not only did the neighbours provide social contact, people shared labour, specialist skills and produce. "And women were judged on good neighbourliness," says historian Ruth Goodman. "If you were willing to help others - particularly during and after childbirth - then others would be more prepared to help you in times of need."

2. Share the load. It was nigh on impossible to run a 1620s farm single-handedly, and the family - either blood relatives, or a farmer, his wife and hired help - had to be multi-skilled. Labour, too, was often divided along gender lines, but at busy periods, such as harvest time, it was all hands on deck.

3. Fewer creature comforts have some benefits. No electricity meant once daylight faded, work stopped in favor of conversation, music-making and knitting. And no carpets meant fewer dust mites, which are linked to asthma and allergies. "They scattered herbs on the floor which released scent when trodden on - this drove out flies and other insects," says Ms Goodman.

4. Eat seasonally. Today it's because of "food miles" and the inferior quality of forced products. In the 1620s, it was because foods were only available at certain times of year - and not just fruit and veg. Mutton, for instance, was in abundance in spring, soon after shearing time. This was because a sheep's wool quality plunges after eight years - thus animals of that age were killed after their final fleece was removed.

5. Tasty food comes in small batches. Today farmers' markets are a tourist attraction and many delight in regional specialities. For these producers play to the strengths of their ingredients, unlike, for instance, the makers of mass-produced cheese. This has to taste the same year-round, despite seasonal variations in milk quality. "So high-quality milk in the

spring is downgraded so the finished product is consistent throughout the year," says Ms Goodman.

6. Reuse and recycle. Today we throw away vast mountains of packaging, food, garden waste and other materials. In 1620s, there was a use for everything, with tattered bed linens made into fire-lighters and animal fat into soap. Even human waste had uses. Faeces was a fertiliser, and urine was stored to make ammonia to remove laundry stains.

7. Dress for practicalities. Today fashion and social convention dictate our wardrobes. While polar fleeces and high-performance tramping boots may be all the rage when going rural, the wardrobe of 400 years ago proved more comfortable. "While the crew shivered in their modern garb, we never felt the cold in just two layers - a linen shirt and woollen doublet," says archaeologist Alex Langlands. Breeches meant no wet and muddy trouser legs, and staying covered up - rather than stripping off in the heat - prevented bites, stings, sunburn and scratches.

8. Corsets, not bras. "By that I don't mean Victorian corseting," says Ms Goodman. "Corsets support your back as well as your chest, and don't leave red welts on your skin like bra elastic does. They made it hard to breath walking up hills, but I get short of breath doing that anyway. And most people feel sexy in a corset."

9. Biodiversity protects against unforeseen calamity. While the developed world no longer counts the cost of crop failure in starvation and mass migration - the result of Ireland's Great Potato Famine in 1845 - the 2001 foot-and-mouth crisis decimated farms up and down the country as animals, the farmers' livelihoods, were put to death. The 1620s farm had grains, fruit and vegetables, and a range of animals - if one failed, alternatives were available.

10. Reliance on any one thing leaves you vulnerable. Hence the country ground to a halt during the petrol blockades of 2000, and a shortage of coal during 1978-9's Winter of Discontent caused electricity shortages. On the 1620s farm, when oxen used to plough fields fell ill, the implements were reshaped and horses did the job instead.

11. No pesticides means a richer variety of birds, butterflies and other insects, many of which feast on pests - a result as desirable for the gardener as the farmer. And the hedgerow and fields of wild flowers of the past are today making a comeback, as these provide habitats for these creatures and allow edible plants to flourish.

Let me tell you a little bit about this chemistry of oil. Oil is a stew of hydrocarbon molecules. It starts of with the very small ones, which are one carbon, four hydrogen - that's methane - it just floats off. Then there's all sorts of intermediate ones with middle amounts of carbon. You've probably heard of benzene rings; they're very carcinogenic. And it goes all the way over to these big, thick, galumphy ones that have hundreds of carbons, and they have thousands of hydrogens, and they have vanadium and heavy metals and sulfur and all kinds of craziness hanging off the sides of them. Those are called the asphaltenes; they're an ingredient in asphalt. They're very important in oil spills.

When the chemistry of the oil and water also hits our politics, it's absolutely explosive. For the first time, American consumers will kind of see the oil supply chain in front of themselves. They have a "eureka!" moment, when they suddenly understand oil in a different context. Nobody gets up in the morning and thinks, "Wow! I'm going to go buy some three-carbon-to-12-carbon molecules to put in my tank and drive happily to work." No, they think,

"Ugh. I have to go buy gas. I'm so angry about it. The oil companies are ripping me off. They set the prices, and I don't even know. I am helpless over this." And this is what happens to us at the gas pump and actually, gas pumps are specifically designed to diffuse that anger. You might notice that many gas pumps, including this one, are designed to look like ATMs. That's specifically to diffuse our anger, because supposedly we feel good about ATMs.

This feeling of helplessness comes in because most Americans actually feel that oil prices are the result of a conspiracy, not of the vicissitudes of the world oil market. We don't want to be buying oil; we want to be doing something green. We talk about energy independence. We talk about hydrogen cars. We talk about biofuels that haven't been invented yet. And so, cognitive dissonance is part and parcel of the way that we deal with oil.

One of the things that's happened because of this is that, since 1969, the country of Nigeria, or the part of Nigeria that pumps oil, which is the delta -- which is two times the size of Maryland -- has had thousands of oil spills a year. I mean, we've essentially been exporting oil spills when we import oil from places without tight environmental regulations. That has been the equivalent of an Exxon Valdez spill every year since 1969. And we can wrap our heads around the spills, because that's what we see here, but in fact, these guys actually live in a war zone. There's a thousand battle-related deaths a year in this area twice the size of Maryland, and it's all related to the oil. And these guys, I mean, if they were in the U.S., they might be actually here in this room. They have degrees in political science, degrees in business -- they're entrepreneurs. They don't actually want to be doing what they're doing. And it's sort of one of the other groups of people who pay a price for Americans.

We need to keep or minds on the molecules and not get distracted by the theater, not get distracted by the cognitive dissonance of the green possibilities that are out there. We need to kind of get down and do the gritty work of reducing our dependence upon this fuel and these molecules.

You take about eight or so carbon atoms, about 20 hydrogen atoms, you put them together in exactly the right way and you get this marvelous liquid: very energy-dense and very easy to refine into a number of very useful products and fuels. It's great stuff. Now, as far as it goes, there's a lot of oil out there in the world.

For the last 25 years, oil has been playing less and less of a role in global energy systems. There was one kind of peak oil in 1985, when oil represented 50 percent of global energy supply. Now, it's about 35 percent. It's been declining and it will continue to decline. Gasoline consumption in the U.S. probably peaked in 2007 and is declining. So oil is playing a less significant role every year. And so, 25 years ago, there was a peak oil; just like, in the 1920s, there was a peak coal; and a hundred years before that, there was a peak wood. And what's been taking up the slack in the last few decades? Well, a lot of natural gas and a little bit of nuclear, for starters. And what goes on in the future? Well, I think out ahead of us a few decades is peak gas, and beyond that, peak renewables.

Energy systems of the world becoming progressively, year on year, decade on decade, century on century, becoming less carbon intense. And that continues into the future with the renewables that we're developing today, reaching maybe 30 percent of primary energy by mid century.

This is the design situation: a planet that is facing climate change and is now half urban. Five out of six of us live in the developing world. We are moving to cities. We are moving up in

the world. And we are educating our kids, having fewer kids, basically good news all around. But we move to cities, toward the bright lights, and one of the things that is there that we want, besides jobs, is electricity. And if it isn't easily gotten, we'll go ahead and steal it. This is one of the most desired things by poor people all over the world, in the cities and in the countryside. Electricity for cities, at its best, is what's called base load electricity. That's where it is on all the time. And so far there are only three major sources of that coal and gas, hydro-electric, which in most places is maxed-out and nuclear.

In terms of weapons, the best disarmament tool so far is nuclear energy. We have been taking down the Russian warheads, turning it into electricity. Ten percent of American electricity comes from decommissioned warheads.

The oil will never run out. It's not because we have a lot of it. It's not because we're going to build a bazillion windmills. It's because, well, thousands of years ago, people invented ideas -- they had ideas, innovations, technology -- and the Stone Age ended, not because we ran out of stones. It's ideas, it's innovation, it's technology that will end the age of oil, long before we run out of oil.

The key question is, "When are we going to get fusion?" It's really been a long time since we've known about fusion. We've known about fusion since 1920, when Sir Arthur Stanley Eddington and the British Association for the Advancement of Science conjectured that that's why the sun shines.

Energy, at the moment, is dominated by resource. The countries that make a lot of money out of energy have something underneath them. We're really dominated now by those things that we're using up faster and faster and faster. And as we try to lift billions of people out of poverty in the Third World, in the developing world, we're using energy faster and faster. And those resources are going away. And the way we'll make energy in the future is not from resource, it's really from knowledge. If you look 50 years into the future, the way we probably will be making energy is probably one of these three, with some wind, with some other things, but these are going to be the base load energy drivers.

Solar can do it, and we certainly have to develop solar. But we have a lot of knowledge to gain before we can make solar the base load energy supply for the world. Fission. USA government is going to put in six new nuclear power stations, and probably more after that. China is building nuclear power stations. Everybody is. Because they know that is one sure way to do carbon-free energy.

But if you wanted to know what the perfect energy source is, the perfect energy source is one that doesn't take up much space, has a virtually inexhaustible supply, is safe, doesn't put any carbon into the atmosphere, doesn't leave any long-lived radioactive waste: it's fusion. But there is a catch. Of course there is always a catch in these cases. Fusion is very hard to do. We've been trying for 50 years.

We have now less then 100 years of fossil fuels left. And god knows we don't really want to burn all of it, because it will make an awful lot of carbon in the air. And then we get to uranium. And with current reactor technology we really don't have very much uranium. And we will have to extract uranium from sea water, to make conventional nuclear power stations actually do very much for us.

To go any further you would have to have breeder technology. And breeder technology is fast breeders. And that's pretty dangerous. And we have 30 million years worth of fusion fuel in sea water. Everybody can get it. That's why we want to do fusion. Is it cost-competitive? We get within about the same price as current electricity.

As a culture, we tell ourselves lots of stories about the future, and where we might move forward from this point. Some of those stories are that somebody is just going to sort everything out for us. Other stories are that everything is on the verge of unraveling.

A gallon of oil, distilled over a hundred million years of geological time, ancient sunlight, contains the energy equivalent of about five weeks hard human manual labor -- equivalent to about 35 strong people coming round and working for you. We can turn it into a dazzling array of materials, medicine, modern clothing, laptops, a whole range of different things. It gives us an energy return that's unimaginable, historically. We've based the design of our settlements, our business models, our transport plans, even the idea of economic growth, some would argue, on the assumption that we will have this in perpetuity.

Yet, when we take a step back, and look over the span of history, at what we might call the petroleum interval, it's a short period in history where we've discovered this extraordinary material, and then based a whole way of life around it. But as we straddle the top of this energy mountain, at this stage, we move from a time where our economic success, our sense of individual prowess and well-being is directly linked to how much of this we consume, to a time when actually our degree of oil dependency is our degree of vulnerability.

And it's increasingly clear that we aren't going to be able to rely on the fact that we're going to have this at our disposal forever. For every four barrels of oil that we consume, we only discover one. And that gap continues to widen. There is also the fact that the amount of energy that we get back from the oil that we discover is falling. In the 1930s we got 100 units of energy back for every one that we put in to extract it. Completely unprecedented, historically. Already that's fallen to about 11. And that's why, now, the new breakthroughs, the new frontiers in terms of oil extraction are scrambling about or at the bottom of the oceans.

There are 98 oil-producing nations in the world. But of those, 65 have already passed their peak. The moment when the world on average passes this peak, people wonder when that's going to happen.

But are we to assume that the same brilliance and creativity and adaptability that got us up to the top of that energy mountain in the first place is somehow mysteriously going to evaporate when we have to design a creative way back down the other side? No. But the thinking that we have to come up with has to be based on a realistic assessment of where we are. There is also the issue of climate change, is the other thing that underpins this transition approach. We have no choice other than deep and urgent decarbonization.

And what are the stories that we tell ourselves now, as we look forward about where we're going to go. There is the idea of business as usual, that the future will be like the present, just more of it. But as we've seen over the last year, I think that's an idea that is increasingly coming into question. And in terms of climate change, is something that is not actually feasible.

There is the idea of hitting the wall, that actually somehow everything is so fragile that it might just all unravel and collapse. This is a popular story in some places. The third story is the idea that technology can solve everything that technology can somehow get us through this completely.

But the world isn't Second Life. We can't create new land and new energy systems at the click of a mouse. And as we sit, exchanging free ideas with each other, there is still people mining coal in order to power the servers, extracting the minerals to make all of those things. The breakfast that we eat as we sit down to check our email in the morning is still transported at great distances, usually at the expense of the local, more resilient food systems that would have supplied that in the past, which we've so effectively devalued and dismantled.

We can be astonishingly inventive and creative. But we also live in a world with very real constraints and demands. Energy and technology are not the same thing. This is really about looking the challenges of peak oil and climate change square in the face, and responding with a creativity and an adaptability and an imagination that we really need. It's something which has spread incredibly fast. And it is something which has several characteristics.

It's viral. It seems to spread under the radar very, very quickly. It's open source. It's something which everybody who's involved with it develops and passes on as they work with it. It's self-organizing. There is no great central organization that pushes this; people just pick up an idea and they run with it, and they implement it where they are. It's solutions-focused. It's very much looking at what people can do where they are, to respond to this. It's sensitive to place and to scale.

Transitional is completely different. Transition groups in Chile, transition groups in the U.S., transition groups in Europe, what they're doing looks very different in every place that you go to. It learns very much from its mistakes. And it feels historic. It tries to create a sense that this is a historic opportunity to do something really extraordinary. And it's a process which is really joyful. People have a huge amount of fun doing this, reconnecting with other people as they do it. One of the things that underpins it is this idea of resilience.

The idea of resilience is a more useful concept than the idea of sustainability. The idea of resilience comes from the study of ecology. And it's really about how systems, settlements, withstand shock from the outside. When they encounter shock from the outside that they don't just unravel and fall to pieces.

When our supermarkets have only two or three days' worth of food in them at any one time, often sustainability tends to focus on the energy efficiency of the freezers and on the packaging that the lettuces are wrapped up in. Looking through the lens of resilience, we really question how we've let ourselves get into a situation that's so vulnerable. Resilience runs much deeper: it's about building modularity into what we do, building surge breakers into how we organize the basic things that support us.

Some of the things that emerge from it are local food projects, like community-supported agriculture schemes, urban food production, creating local food directories, and so on. A lot of places now are starting to set up their own energy companies, community-owned energy companies, where the community can invest money into itself, to start putting in place the kind of renewable energy infrastructure that we need. A lot of places are working with their local schools. Promoting recycling, things like garden-share that matches up people who don't have a garden who would like to grow food, with people who have gardens they aren't using

anymore. Planting productive trees throughout urban spaces. And also starting to play around with the idea of alternative currencies.

We must create an energy descent plan, which is basically to develop a plan B for the town. Most of our local authorities, when they sit down to plan for the next five, 10, 15, 20 years of a community, still start by assuming that there will be more energy, more cars, more housing, more jobs, more growth, and so on.

But the key to transition is thinking not that we have to change everything now, but that things are already inevitably changing, and what we need to do is to work creatively with that, based on asking the right questions.

We must feel enormously grateful to have lived through the age of cheap oil; we've been astonishingly lucky. But let us honor what it has bought us, and move forward from this point. Because if we cling to it, and continue to assume that it can underpin our choices, the future that it presents to us is one which is really unmanageable. And by loving and leaving all that oil has done for us, and that the Oil Age has done for us, we are able to then begin the creation of a world which is more resilient, more nourishing, and in which, we find ourselves fitter, more skilled and more connected to each other.

The future.

What technology can we really apply to reducing global poverty? The facts are quite surprisingly. If you start looking at things like death rates in the 20th century, and how they'd been improved, very simple things turned out. You'd think maybe antibiotics made more difference than clean water, but it's actually the opposite. And so very simple things -- off-the-shelf technologies that we could easily find on the then-early Web -- would clearly make a huge difference to that problem.

If we are looking at more powerful technologies like nanotechnology and genetic engineering and other new emerging kind of digital technologies, became very concerned about the potential for abuse. If you think about it, in history, a long, long time ago we dealt with the problem of an individual abusing another individual. We came up with something -- the Ten Commandments: You shall not kill. That's a, kind of a one-on-one thing. We organized into cities. We had many people. And to keep the many from tyrannizing the one, we came up with concepts like individual liberty. And then, to have to deal with large groups, say, at the nation-state level and we had to have mutual non-aggression, or through a series of conflicts, we eventually came to a rough international bargain to largely keep the peace.

But now we have a new situation, really what people call an asymmetric situation, where technology is so powerful that it extends beyond a nation-state. It's not the nation-states that have potential access to mass destruction, but individuals. And this is a consequence of the fact that these new technologies tend to be digital. We saw genome sequences. You can download the gene sequences of pathogens off the Internet if you want to.

So individuals in small groups super-empowered by access to these kinds of self-replicating technologies, whether it is biological or other, are clearly a danger in our world. And the danger is that they can cause roughly what's a pandemic. And we really don't have experience with pandemics, and we're also not very good as a society at acting to things we don't have direct and sort of gut-level experience with. So it's not in our nature to pre-act. And in this

case, piling on more technology doesn't solve the problem, because it only super-empowers people more.

So the solution has to be, as people like Russell and Einstein and others imagine in a conversation that existed in a much stronger form, early in the 20th century that the solution had to be not just the head but the heart. You know public policy and moral progress. The bargain that gives us civilization is a bargain to not use power. We get our individual rights by society protecting us from others not doing everything they can do but largely doing only what is legal. And so to limit the danger of these new things, we have to limit, ultimately, the ability of individuals to have access, essentially, to pandemic power. We also have to have sensible defense, because no limitation is going to prevent a crazy person from doing something. And you know, and the troubling thing is that it's much easier to do something bad than to defend against all possible bad things, so the offensive uses really have an asymmetric advantage.

We can't give up the rule of law to fight an asymmetric threat, which is what we seem to be doing because of the present by the people that are in power, because that's to give up the thing that makes civilization. And we can't fight the threat in the kind of stupid way we're doing, because a million-dollar act causes a billion dollars of damage, causes a trillion dollar response which is largely ineffective and arguably, probably almost certainly, has made the problem worse. So we can't fight the thing with a million-to-one cost, one-to-a-million cost-benefit ratio. This is happened after 9/11 staged attacks.

The challenge for us is to develop the kind of educational tools and things that can really open a new era for mankind. Today we have incredibly powerful computers, but we don't have very good software for them. And it's only in retrospect, after the better software comes along, and you take it and you run it on a ten-year-old machine, you say, God, the machine was that fast? We can know what the computers are going to be like in 2020. It's great that we have initiatives to say, let's go create the education and educate people in the world, because that's a great force for peace. And we can give everyone in the world a $100 computer or a $10 computer in the next 15 years.

The second area is the environmental problem, because that's clearly going to put a lot of pressure on this world. The thing that we see as the kind of Moore's Law trend that's driving improvement in our ability to address the environmental problem is new materials. We have a challenge, because the urban population is growing in this century from two billion to six billion in a very short amount of time. People are moving to the cities. They all need clean water, they need energy, they need transportation, and we want them to develop in a green way. We're reasonably efficient in the industrial sectors. We've made improvements in energy and resource efficiency, but the consumer sector, especially in America, is very inefficient. But these new materials bring such incredible innovations that there's a strong basis for hope that these things will be so profitable that they can be brought to the market.

If we take carbon nanotubes, discovered in 1991, they just have incredible properties. And these are the kinds of things we're going to discover as we start to engineer at the nano scale. Their strength: they're almost the strongest material, tensile strength material known. They're very, very stiff. They stretch very, very little. In two dimensions, if you make, like, a fabric out of them, they're 30 times stronger than Kevlar. And if you make a three-dimensional structure, like a buckyball, they have all sorts of incredible properties. If you shoot a particle at them and knock a hole in them, they repair themselves; they go zip and they repair the hole in seconds. If you shine a light on them, they produce electricity. In fact, if you flash them

with a camera they catch on fire. If you put electricity on them, they emit light. If you run current through them, you can run 1,000 times more current through one of these than through a piece of metal. You can make both p- and n-type semiconductors, which means you can make transistors out of them. They conduct heat along their length but not in the other direction if you stack them up; that's a property of carbon fiber also. If you put particles in them, and they go shooting out the tip -- they're like miniature linear accelerators or electron guns. The inside of the nanotubes is so small -- the smallest ones are 0.7 nanometers -- that it's basically a quantum world. It's indeed a strange place inside a nanotube.

So inside of a nanotube, we're really at the limit here. So what we see is with these and other new materials that we can do things with different properties -- lighter, stronger -- and apply these new materials to the environmental problems. New materials that can make water, new materials that can make fuel cells work better, new materials that catalyze chemical reactions, which cut pollution and so on. Ethanol -- new ways of making ethanol. New ways of making electric transportation. The whole green dream, because this materials revolution will drive these things forward.

But, if we let an unlimited amount of power loose, then we will have a very small number of people who will be able to abuse it. We can't fight at a million-to-one disadvantage. So what we need to do is, we need better policy. And for example, some things we could do that would be policy solutions which are not really in the political air right now but perhaps with the change of administration would be -- use markets.

Markets are a very strong force. For example, rather than trying to regulate away problems, which probably won't work, if we could price into the cost of doing business, the cost of catastrophe, so that people who are doing things that had a higher cost of catastrophe would have to take insurance against that risk. So if you wanted to put a drug on the market you could put it on. But it wouldn't have to be approved by regulators; you'd have to convince an actuary that it would be safe. And if you apply the notion of insurance more broadly, you can use a more powerful force, a market force, to provide feedback. How could you keep the law? The law would be a really good thing to keep. We'll have to hold people accountable. The law requires accountability. Today scientists, technologists, businessmen, engineers don't have any personal responsibility for the consequences of their actions. So if you tie that -- you have to tie that back with the law.

We have to begin to design the future. We can't pick the future, but we can steer the future. Our investment in trying to prevent pandemic flu is affecting the distribution of possible outcomes. We may not be able to stop it, but the likelihood that it will get past us is lower if we focus on that problem. So we can design the future if we choose what kind of things we want to have happen and not have happen, and steer us to a lower-risk place.

But above all, what we have to do is we have to help the good guys, the people on the defensive side, have an advantage over the people who want to abuse things. And what we have to do to do that is we have to limit access to certain information. And growing up as we have, and holding very high the value of free speech, this is a hard thing for us to accept -- for all of us to accept. It's especially hard for the scientists to accept, but that's the price of having a civilization.

Screw Oil!

Peak oil is a major and justified concern. For those who are not familiar with this, peak oil is the point where production of petroleum peaks and begins to steadily decline, eventually leading to a scenario where the energy required to extract petroleum is greater than the energy content in the extracted petroleum -- at this point, continuing to produce oil simply drains energy reserves even faster. Fortunately, due wholly to the scientific and engineering capabilities of humanity, this scenario need never manifest.

The US is, by far, the biggest consumer of petroleum they consume almost as much petroleum as the next 5 nations and 40% more than the nations of the European Union. Most petroleum (as well as other fossil fuels) are used in the transportation, electricity-generation, and petrochemical industries -- other major uses of petroleum are in the manufacturing industry to power heavy machinery and as fuel for residential and commercial heating systems, however these uses are easily replaced by machines and heating systems that operate on electricity. Thus, the main uses of fossil fuels are as fuel for transportation (there are currently far too many cars, trucks, bikes, trains, planes, ships, etc. to easily or quickly replace with electric vehicles), generating electricity by heating water to produce steam, and processing and refining into various hydrocarbons to produce various materials such as plastics, synthetic rubbers, paints and dyes, etc.

Generating electricity by burning fossil fuels has been obsolete and unnecessary for years. The most abundant sources of clean, renewable energy are solar, geothermal, and wind, with ~35,000, ~1,400, and ~15 times the amount of electricity consumed globally in 2008, respectively. A global, decentralized, load-bearing energy grid emphasizing these three sources -- as well as hydro and fusion, when it becomes viable -- while simultaneously continuing the development of energy-efficient electrical systems will result in a society that produces far more electricity than it could possibly use and whose main problem is figuring out how to store the excess.

Transportation is also an issue that is easily solved, though solving this would require a radical restructuring of public intra- and inter-city transit systems as well as significant reduction in the demand for privately-owned transportation. Fortunately, the most promising systems, ET3 and SkyTran, are both fully-automated, electrically-driven, hyper-efficient, fast, less expensive to install and operate than any existing mass-transit system, including highways, and carry the potential of allowing any individual to travel to any place on Earth that has access to these systems at no or negligible cost to the passenger, greatly reducing the need -- and demand -- of inefficient and polluting private transportation.

The final aspect to cover is the petrochemical industry -- fortunately this, too, has been conquered. Hydrocarbons -- molecules based wholly or mostly on hydrogen and carbon atoms -- are critical to the production of the most ubiquitous materials currently used such as plastic, rubber, paints, adhesives, asphalt, etc. and, until we discover or develop new materials to replace the ones currently in-use, will remain critical to the production of these materials. Hydrocarbons have traditionally been produced by refining and processing fossil fuels in energy-intensive facilities. However, a new method developed by the Huber Biofuel Research Group in Dec. 2010 would allow the production of every synthetic hydrocarbon currently used in the petrochemical industry "with no infrastructure changes required".

While most concerned with the prospect of peak oil argue that the global peak has either already passed or is quickly-approaching, the technologies that exist today, if utilized properly and to their full potential, will completely eliminate any threat the global peak oil scenario poses to humanity.

It remains pretty clear that the only real threat to humanity is politics. The way the politic is made today it's old and inefficient. We desperately need a way to upgrade the politics to the very last standards, on-line open-source politics, politics 2.0 if you like.

Chapter 9: Tools for a better world, a better society for a better human being

A community based society

Back in 1835 James Gordon Bennett founded the first mass-circulation newspaper in New York City. And it cost about 500 dollars to start it, which was about the equivalent of 10,000 dollars of today. By 15 years later, by 1850, doing the same thing -- starting what was experienced as a mass--circulation daily paper -- would come to cost two and a half million dollars. 10,000, two and a half million, 15 years. That's the critical change that is being inverted by the Net. And that's what I want to talk about today, and how that relates to the emergence of social production.

Starting with newspapers, what we saw was high cost as an initial requirement for making information, knowledge and culture, which led to a stark bifurcation between producers -- who had to be able to raise financial capital, just like any other industrial organization -- and passive consumers that could choose from a certain set of things that this industrial model could produce. Now, the term "information society," "information economy," for a very long time has been used as the thing that comes after the industrial revolution. But in fact, for purposes of understanding what's happening today, that's wrong. Because for 150 years, we've had an information economy. It's just been industrial, which means those who were producing had to have a way of raising money to pay those two and a half million dollars, and later, more for the telegraph, and the radio transmitter, and the television, and eventually the mainframe. And that meant they were market based, or they were government owned, depending on what kind of system they were in. And this characterized and anchored the way information and knowledge was produced for the next 150 years.

Around June 2002, the world of supercomputers had a bombshell. The Japanese had, for the first time, created the fastest supercomputer - the NEC Earth Simulator - taking the primary from the U.S., and about two years later, this, by the way, is measuring the trillion floating-point operations per second that the computer's capable of running. All of this completely ignores the fact that throughout this period, there's another supercomputer running in the world -- SETI@home. Four and a half million users around the world, contributing their leftover computer cycles, whenever their computer isn't working, by running a screen saver, and together sharing their resources to create a massive supercomputer that NASA harnesses to analyze the data coming from radio telescopes.

What this thing suggests to us is that we've got a radical change in the way information production and exchange is capitalized. Not that it's become less capital intensive -- that there's less money that's required, but that the ownership of this capital, the way the capitalization happens, is radically distributed. Each of us, in these advanced economies, has one of these, or something rather like it - a computer. They're not radically different from routers inside the middle of the network. And computation, storage and communications capacity are in the hands of practically every connected person, and these are the basic physical capital means necessary for producing information, knowledge and culture, in the hands of something like 600 million to a billion people around the planet.

What this means is that for the first time since the industrial revolution, the most important means, the most important components of the core economic activities -- remember, we are in an information economy -- of the most advanced economies, and there more than anywhere

else, are in the hands of the population at large. This is completely different than what we've seen since the industrial revolution. So we've got communications and computation capacity in the hands of the entire population, and we've got human creativity, human wisdom, human experience -- the other major experience, the other major input -- which unlike simple labor -- stand here turning this lever all day long -- is not something that's the same or fungible among people. Any one of you who has taken someone else's job, or tried to give yours to someone else, no matter how detailed the manual, you cannot transmit what you know, what you will intuit under a certain set of circumstances. In that we're unique, and each of us holds this critical input into production as we hold this machine.

What's the effect of this? So, the story that most people know is the story of free or open source software. This is market share of Apache Web server -- one of the critical applications in Web-based communications. In 1995, two groups of people said, "Wow, this is really important, the Web! We need a much better Web server!" One was a motley collection of volunteers who just decided, you know, we really need this, we should write one, and what are we going to do with what -- well, we're gonna share it! And other people will be able to develop it. The other was Microsoft.

10 years later, the motley crew of people, who didn't control anything that they produced, acquired 20 percent of the market, it would be amazing! Right? Think of it in minivans. A group of automobile engineers on their weekends are competing with Toyota. Right? But, in fact, of course, the story is it's the 70 percent, including the major e-commerce site -- 70 percent of a critical application on which Web-based communications and applications work is produced in this form, in direct competition with Microsoft. Not in a side issue -- in a central strategic decision to try to capture a component of the Net. Software has done this in a way that's been very visible, because it's measurable. But the thing to see is that this actually happens throughout the Web.

So, NASA, at some point, did an experiment where they took images of Mars that they were mapping, and they said, instead of having three or four fully trained Ph.D.s doing this all the time, let's break it up into small components, put it up on the Web, and see if people, using a very simple interface, will actually spend five minutes here, 10 minutes there, clicking. After six months, 85,000 people used this to generate mapping at a faster rate than the images were coming in, which was, quote, "practically indistinguishable from the markings of a fully-trained Ph.D.," once you showed it to a number of people and computed the average.

Another portion is not only how content is produced, but how relevance is produced. The claim to fame of Yahoo! was, we hire people to look at websites and tell you -- if they're in the index, they're good. This, on the other hand, is what 60,000 passionate volunteers produce in the Open Directory Project, each one willing to spend an hour or two on something they really care about, to say, this is good. So, this is the Open Directory Project, with 60,000 volunteers, each one spending a little bit of time, as opposed to a few hundred fully paid employees. No one owns it, no one owns the output, it's free for anyone to use and it's the output of people acting out of social and psychological motivations to do something interesting.

This is not only outside of businesses. When you think of what is the critical innovation of Google, the critical innovation is outsourcing the one most important thing the decision about what's relevant to the community of the Web as a whole, doing whatever they want to do: so, page rank. The critical innovation here is instead of our engineers, or our people saying which

is the most relevant, we're going to go out and count what you, people out there on the Web, for whatever reason -- vanity, pleasure -- produced links, and tied to each other.

So, all of that is in the creation of content, of relevance, basic human expression. But remember, the computers were also physical. Just physical materials -- our PCs -- we share them together. We also see this in wireless. It used to be wireless was one person owned the license, they transmitted in an area, and it had to be decided whether they would be licensed or based on property. What we're seeing now is that computers and radios are becoming so sophisticated that we're developing algorithms to let people own machines, like Wi-Fi devices, and overlay them with a sharing protocol that would allow a community like this to build its own wireless broadband network simply from the simple principle: When I'm listening, when I'm not using, I can help you transfer your messages; and when you're not using, you'll help me transfer yours. And this is not an idealized version. These are working models that at least in some places in the United States are being implemented, at least for public security.

If in 1999 you've been asked to, let's build a data storage and retrieval system. It's got to store terabytes. It's got to be available 24 hours a day, seven days a week. It's got to be available from anywhere in the world. It has to support over 100 million users at any given moment. It's got to be robust to attack, including closing the main index, injecting malicious files, armed seizure of some major nodes. You'd say that would take years. It would take millions. But of course, what I'm describing is P2P file sharing. Right? We always think of it as stealing music, but fundamentally, it's a distributed data storage and retrieval system, where people, for very obvious reasons, are willing to share their bandwidth and their storage to create something.

So, essentially what we're seeing is the emergence of a fourth transactional framework. It used to be that there were two primary dimensions along which you could divide things. They could be market based, or non-market based; they could be decentralized, or centralized. The price system was a market-based and decentralized system. If things worked better because you actually had somebody organizing them, you had firms, if you wanted to be in the market -- or you had governments or sometimes larger non-profits in the non-market. It was too expensive to have decentralized social production, to have decentralized action in society. That was not about society itself. That was, in fact, economic.

But what we're seeing now is the emergence of this fourth system of social sharing and exchange. Not that it's the first time that we do nice things to each other, or for each other, as social beings. We do it all the time. It's that it's the first time that it's having major economic impact. What characterizes them is decentralized authority. You don't have to ask permission, as you do in a property-based system. May I do this? It's open for anyone to create and innovate and share, if they want to, by themselves or with others, because property is one mechanism of coordination. But it's not the only one.

Instead, what we see are social frameworks for all of the critical things that we use property and contract in the market: information flows to decide what are interesting problems; who's available and good for something; motivation structures -- remember, money isn't always the best motivator

It also requires certain new organizational approaches. And in particular, what we've seen is task organization. You have to hire people who know what they're doing. You have to hire them to spend a lot of time. Now, take the same problem, chunk it into little modules, and

motivations become trivial. Five minutes, instead of watching TV? Five minutes I'll spend just because it's interesting. Just because it's fun. Just because it gives me a certain sense of meaning, or, in places that are more involved, like Wikipedia, gives me a certain set of social relations.

So, a new social phenomenon is emerging. It's creating, and it's most visible when we see it as a new form of competition. Peer-to-peer networks assaulting the recording industry; free and open source software taking market share from Microsoft; Skype potentially threatening traditional telecoms; Wikipedia competing with online encyclopedias. But it's also a new source of opportunities for businesses. As you see a new set of social relations and behaviors emerging, you have new opportunities. Some of them are toolmakers. Instead of building well-behaved appliances -- things that you know what they'll do in advance -- you begin to build more open tools. There's a new set of values, a new set of things people value. You build platforms for self-expression and collaboration. Like Wikipedia, like the Open Directory Project, you're beginning to build platforms, and you see that as a model. And you see surfers, people who see this happening, and in some sense build it into a supply chain, which is a very curious one.

You have a belief: stuff will flow out of connected human beings. That'll give me something I can use, and I'm going to contract with someone. I will deliver something based on what happens. It's very scary -- that's what Google does, essentially. That's what IBM does in software services, and they've done reasonably well.

So, social production is a real fact, not a fad. It is the critical long-term shift caused by the Internet. Social relations and exchange become significantly more important than they ever were as an economic phenomenon. In some contexts, it's even more efficient because of the quality of the information, the ability to find the best person, the lower transaction costs. It's sustainable and growing fast.

But -- and this is the dark lining -- it is threatened by -- in the same way that it threatens -- the incumbent industrial systems. So next time you open the paper, and you see an intellectual property decision, a telecoms decision, it's not about something small and technical. It is about the future of the freedom to be as social beings with each other, and the way information, knowledge and culture will be produced. Because it is in this context that we see a battle over how easy or hard it will be for the industrial information economy to simply go on as it goes, or for the new model of production to begin to develop alongside that industrial model, and change the way we begin to see the world and report what it is that we see.

The role of science and technology will be about to become part of nature rather than trying to control it.

So much of science and technology has been about pursuing efficiency, scale and “exponential growth” at the expense of our environment and our resources. We have rewarded those who invent technologies that control our triumph over nature in some way. This is clearly not sustainable.

We must understand that we live in a complex system where everything is interrelated and interdependent and that everything we design impacts a larger system.

My dream is that 100 years from now, we will be learning from nature, integrating with nature and using science and technology to bring nature into our lives to make human beings

and our artifacts not only zero impact but a positive impact to the natural system that we live in.

How ordinary people become monsters or heroes

Philosophers, dramatists, theologians have grappled with this question for centuries: what makes people go wrong?

What is in between that line that divide good and evil - which privileged people like to think, is fixed and impermeable, with them on the good side, and the others on the bad side? This line is movable, and it is permeable. Good people could be seduced across that line, and under good and some rare circumstances, bad peoples could recover with help, with reform, with rehabilitation.

The world is, was, will always be filled with good and evil, because good and evil is the yin and yang of the human condition. If you remember, God's favorite angel was Lucifer. Apparently, Lucifer means "the light." It also means "the morning star," in some scripture. And apparently, he disobeyed God, and that's the ultimate disobedience to authority. And when he did, Michael, the archangel, was sent to kick him out of heaven along with the other fallen angels. And so Lucifer descends into hell, becomes Satan becomes the devil, and the force of evil in the universe begins.

Paradoxically, it was God who created hell as a place to store evil. He didn't do a good job of keeping it there though. So, this arc of the cosmic transformation of God's favorite angel into the Devil sets the context for understanding human beings who are transformed from good, ordinary people into perpetrators of evil.

So the Lucifer effect, although it focuses on the negatives, the negatives that people can become, not the negatives that people are, leads us to a psychological definition. Evil is the exercise of power. And that's the key: it's about power. To intentionally harm people psychologically, to hurt people physically, to destroy people mortally, or ideas, and to commit crimes against humanity.

The power is in the system. The system creates the situation that corrupts the individuals, and the system is the legal, political, economic, cultural background. And this is where the power is of the bad-barrel makers.

So if you want to change a person, you've got to change the situation. If you want to change the situation, you've got to know where the power is, in the system. So the Lucifer effect involves understanding human character transformations with these three factors. And it's a dynamic interplay. What do the people bring into the situation? What does the situation bring out of them? And what is the system that creates and maintains that situation?

The human mind has an infinite capacity to make any of us kind or cruel, caring or indifferent, creative or destructive, and it makes some of us villains but also it makes some of us heroes.

Here is the description of an experiment trying to answer to the question Put by Dr. Milgram "Could the Holocaust happen here in USA, now?" People say, "No, that's Nazi Germany, that's Hitler, you know, that's 1939.", "Yeah, but suppose Hitler asked you, 'Would you electrocute a stranger?' 'No way, not me, I'm a good person.' ", "Why don't we put you in a situation and give you a chance to see what you would do?"

And so what they tested 1,000 ordinary people. And the ad said, "Psychologists want to understand memory. We want to improve people's memory, because memory is the key to success." OK? "We're going to give you five bucks for your time." And it said, "We don't want college students. We want men between 20 and 50." In the later studies, they ran women. Ordinary people: barbers, clerks, white-collar people.

So, you go down, and one of you is going to be a learner, and one of you is going to be a teacher. The learner's a genial, middle-aged guy. He gets tied up to the shock apparatus in another room. The learner could be middle-aged, could be as young as 20. And one of you is told by the authority, the guy in the lab coat, "Your job as teacher is to give this guy material to learn. Gets it right, reward him. Gets it wrong, you press a button on the shock box. The first button is 15 volts. He doesn't even feel it." That's the key. All evil starts with 15 volts. And then the next step is another 15 volts. The problem is, at the end of the line, it's 450 volts. And as you go along, the guy is screaming, "I've got a heart condition! I'm out of here!"

You're a good person. You complain. "Sir, who's going to be responsible if something happens to him?" The experimenter says, "Don't worry, I will be responsible. Continue, teacher." And the question is who would go all the way to 450 volts? You should notice here, when it gets up to 375, it says, "Danger. Severe Shock."

So Milgram asks 40 psychiatrists, "What percent of American citizens would go to the end?" They said only one percent. Because that's sadistic behavior, and we know, psychiatry knows, only one percent of Americans are sadistic. OK. Here's the data. They could not be more wrong. Two thirds go all the way to 450 volts. This was just one study. Milgram did more than 16 studies. And look at this. In study 16, where you see somebody like you go all the way, 90 percent go all the way. In study five, if you see people rebel, 90 percent rebel. What about women? Study 13 -- no different than men. So Milgram is quantifying evil as the willingness of people to blindly obey authority, to go all the way to 450 volts. And it's like a dial on human nature. A dial in a sense that you can make almost everybody totally obedient, down to the majority, down to none.

So what are the external parallels? For all research is artificial. What's the validity in the real world? 912 American citizens committed suicide or were murdered by family and friends in Guyana jungle in 1978, because they were blindly obedient to this guy, their pastor - not their priest - their pastor, Reverend Jim Jones. He persuaded them to commit mass suicide. And so, he's the modern Lucifer effect, a man of God who becomes the Angel of Death. Milgram's study is all about individual authority to control people. Most of the time, we are in institutions, so the Stanford Prison Study is a study of the power of institutions to influence individual behavior

Does it make a difference if warriors go to battle changing their appearance or not? Does it make a difference if they're anonymous, in how they treat their victims? We know in some cultures, they go to war, they don't change their appearance. In other cultures, they paint themselves like "Lord of the Flies." In some, they wear masks. In many, soldiers are anonymous in uniform. So this anthropologist, John Watson, found 23 cultures that had two bits of data. Do they change their appearance? 15. Do they kill, torture, mutilate? 13. If they don't change their appearance, only one of eight kills, tortures or mutilates. The key is in the red zone. If they change their appearance, 12 of 13 -- that's 90 percent -- kill, torture, mutilate. And that's the power of anonymity.

So what are the seven social processes that grease the slippery slope of evil? Mindlessly taking the first small step. Dehumanization of others. De-individuation of Self. Diffusion of personal responsibility. Blind obedience to authority. Uncritical conformity to group norms. Passive tolerance to evil through inaction or indifference.

And it happens when you're in a new or unfamiliar situation. Your habitual response patterns don't work. Your personality and morality are disengaged. "Nothing is easier than to denounce the evildoer; nothing more difficult than understanding him," Dostoyevksy tells us. Understanding is not excusing. Psychology is not excuseiology.

So social and psychological research reveals how ordinary, good people can be transformed without the drugs. You don't need it. You just need the social-psychological processes. Real world parallels? Psychologists have attempted to understand how and why individuals and groups who usually act humanely can sometimes act otherwise in certain circumstances. That's the Lucifer effect. The landmark Stanford study provides a cautionary tale for all military operations. If you give people power without oversight, it's a prescription for abuse. The military knows that, and often they let it happen.

So you need a paradigm shift in all of these areas. The shift is away from the medical model that focuses only on the individual. The shift is toward a public health model that recognizes situational and systemic vectors of disease. Bullying is a disease. Prejudice is a disease. Violence is a disease. And since the Inquisition, we've been dealing with problems at the individual level. And you know what? It doesn't work. Aleksandr Solzhenitsyn says, "The line between good and evil cuts through the heart of every human being." That means that line is not out there. That's a decision that you have to make. That's a personal thing.

Heroism as the antidote to evil, by promoting the heroic imagination, especially in our kids, in our educational system we can create awareness. Banality of heroism is, it's ordinary people who do heroic deeds. It's the counterpoint to Hannah Arendt's "Banality of Evil." Our traditional societal heroes are wrong, because they are the exceptions. They organize their whole life around this. That's why we know their names. And our kids' heroes are also role models for them, because they have supernatural talents. We want our kids to realize most heroes are everyday people, and the heroic act is unusual.

So situations have the power to do, through - but the point is, this is the same situation that can inflame the hostile imagination in some of us, that makes us perpetrators of evil, can inspire the heroic imagination in others. It's the same situation. And you're on one side or the other. Most people are guilty of the evil of inaction, because your mother said, "Don't get involved. Mind your own business." And you have to say, "Mama, humanity is my business."

So the psychology of heroism is how do we encourage children in new hero courses to develop this heroic imagination, this self-labeling, "I am a hero in waiting," and teach them skills. To be a hero, you have to learn to be a deviant, because you're always going against the conformity of the group. Heroes are ordinary people whose social actions are extraordinary. Who act.

The key to heroism is two things. A: you've got to act when other people are passive. B: you have to act socio-centrically, not egocentrically.

The story of Wesley Autrey, New York subway hero is comprehensive in that sense. Fifty-year-old African-American construction worker. He's standing on a subway in New York. A

white guy falls on the tracks. The subway train is coming. There's 75 people there. You know what? They freeze. He's got a reason not to get involved. He's black, the guy's white, and he's got two little kids. Instead, he gives his kids to a stranger, jumps on the tracks, puts the guy between the tracks, lies on him, the subway goes over him. Wesley and the guy - 20 and a half inches height. The train clearance is 21 inches. A half an inch would have taken his head off. And he said, "I did what anyone could do," no big deal to jump on the tracks.

And the moral imperative is "I did what everyone should do." And so one day, you will be in a new situation. Take path one, you're going to be a perpetrator of evil. Evil, meaning you're going to cheat, or you're going to allow bullying. Path two, you become guilty of the evil of passive inaction. Path three, you become a hero. The point is, are we ready to take the path to celebrating ordinary heroes, waiting for the right situation to come along to put heroic imagination into action? Because it may only happen once in your life, and when you pass it by, you'll always know, I could have been a hero and I let it pass me by. So the point is thinking it and then doing it.

Let's oppose the power of evil systems at home and abroad, and let's focus on the positive. Advocate for respect of personal dignity, for justice and peace, which sadly our administration has not been doing.

Institutions vs. collaboration

How do groups get anything done? How do you organize a group of individuals so that the output of the group is something coherent and of lasting value, instead of just being chaos? And the economic framing of that problem is called coordination costs. And a coordination cost is essentially all of the financial or institutional difficulties in arranging group output. And we've had a classic answer for coordination costs, which is, if you want to coordinate the work of a group of people, you start an institution. You raise some resources. You found something. It can be private or public. It can be for profit or not profit. It can be large or small. But you get these resources together. You found an institution, and you use the institution to coordinate the activities of the group.

More recently, because the cost of letting groups communicate with each other has fallen through the floor, and communication costs are one of the big inputs to coordination, there has been a second answer, which is to put the cooperation into the infrastructure, to design systems that coordinate the output of the group as a by-product of the operating of the system, without regard to institutional models.

First of all, when you form an institution, you take on a management problem. No good just hiring employees, you also have to hire other employees to manage those employees and to enforce the goals of the institution and so forth. Secondly, you have to bring structure into place. You have to have economic structure. You have to have legal structure. You have to have physical structure. And that creates additional costs. Third, forming an institution is inherently exclusionary; you can't hire everyone in a company, you can't recruit everyone into a governmental organization. You have to exclude some people. And fourth, as a result of that exclusion, you end up with a professional class.

When you build cooperation into the infrastructure, you can leave the people where they are and you take the problem to the individuals, rather than moving the individuals to the problem. You arrange the coordination in the group, and by doing that you get the same outcome, without the institutional difficulties. You lose the institutional imperative. You lose

the right to shape people's work when it's volunteer effort, but you also shed the institutional cost, which gives you greater flexibility. What an internet base cooperative enterprise does is it replaces planning with coordination. And this is a general aspect of these cooperative systems.

You'll have experienced this in your life whenever you bought your first mobile phone, and you stopped making plans. You just said, "I'll call you when I get there." "Call me when you get off work." That is a point-to-point replacement of coordination with planning. We're now able to do that kind of thing with groups. To say instead of, we must make an advance plan, we must have a five-year projection of where the Wikipedia is going to be, or whatever, you can just say, let's coordinate the group effort, and let's deal with it as we go, because we're now well-enough coordinated that we don't have to take on the problems of deciding in advance what to do.

This is called a power-law distribution. It appears often in unconstrained social systems where people are allowed to contribute as much or as little as they like this is often what you get. The math behind the power-law distribution is that whatever's in the nth position is doing about one-nth of whatever's being measured, relative to the person in the first position.

And curiously, in these systems, as they grow larger, the systems don't converge; they diverge more. In bigger systems, the head gets bigger and the tail gets longer, so the imbalance increases.

This is the math underlying the 80/20 rule. Whenever you hear anybody talking about the 80/20 rule, this is what's going on. 20 percent of the merchandise accounts for 80 percent of the revenue, 20 percent of the users use 80 percent of the resources this is the shape people are talking about when that happens. Institutions only have two tools: carrots and sticks. And the 80 percent zone is a no-carrot and no-stick zone. The costs of running the institution mean that you cannot take on the work of those people easily in an institutional frame. The institutional model always pushes leftwards, treating these people as employees. The institutional response is I can get 75 percent of the value for 10 percent of the hires. The cooperative infrastructure model says, why do you want to give up a quarter of the value? If your system is designed so that you have to give up a quarter of the value, re-engineer the system. Don't take on the cost that prevents you from getting to the contributions of these people. Build the system so that anybody can contribute at any amount.

So the coordination response asks not, how are these people as employees, but rather, what is their contribution like? And the tension here is between institution as enabler and institution as obstacle. When you're dealing with the left-hand edge of one of these distributions, when you're dealing with the people who spend a lot of time producing a lot of the material you want, that's an institution-as-enabler world.

Institutions hate being told they're obstacles. One of the first things that happens when you institutionalize a problem is that the first goal of the institution immediately shifts from whatever the nominal goal was to self-preservation. And the actual goal of the institution goes to two through n. So, when institutions are told they are obstacles, and that there are other ways of coordinating the value, they go through something a little bit like a reaction, being told you have a fatal illness: denial, anger, bargaining, acceptance.

Many, many institutions are still in denial, but we're seeing recently a lot of both anger and bargaining. There's a wonderful, small example going on right now. In France, a bus company

is suing people for forming a carpool, because the fact that they have coordinated themselves to create cooperative value is depriving them of revenue.

The bigger question is, what do you do about the value down here? How do you capture that? And institutions, are prevented from capturing that. Steve Ballmer, now CEO of Microsoft, was criticizing Linux a couple of years ago, and he said, "Oh, this business of thousands of programmers contributing to Linux, this is a myth. We've looked at who's contributed to Linux, and most of the patches have been produced by programmers who've only done one thing." You can hear this distribution under that complaint. And you can see why, from Ballmer's point of view, that's a bad idea. The fact that a single programmer can, without having to move into a professional relation to an institution, improve Linux once and never be seen from again, should terrify Ballmer. Because this kind of value is unreachable in classic institutional frameworks, but is part of cooperative systems of open-source software, of file sharing, of the Wikipedia.

Flickr it's an example of collaboration network, but there are actually stories about this from all over. And the world really needs more of this collaborative social network, software networks or whatever. Meetup, a service founded so that users could find people in their local area who share their interests and affinities and actually have a real-world meeting offline in a cafe or a pub or what have you. When Scott Heiferman founded Meetup, he thought it would be used for, you know, train spotters and cat fanciers -- classic affinity groups. The inventors don't know what the invention is. Number one group on Meetup right now, most chapters in most cities with most members, most active? Stay-at-home moms. In the suburbanized, dual-income United States, stay-at-home moms are actually missing the social infrastructure that comes from extended family and local, small-scale neighborhoods. So they're reinventing it, using these tools. Meetup is the platform, but the value here is in social infrastructure. If you want to know what technology is going to change the world, don't pay attention to 13-year-old boys, pay attention to young mothers, because they have got not an ounce of support for technology that doesn't materially make their lives better. This is so much more important than Xbox, but it's a lot less glitzy.

This is a revolution. This is a really profound change in the way human affairs are arranged. And I use that word advisedly. It's a revolution in that it's a change in equilibrium. It's a whole new way of doing things, which includes new downsides. In the United States right now, a woman named Judith Miller is in jail for not having given to a Federal Grand Jury her sources -- she's a reporter for the New York Times -- her sources, in a very abstract and hard-to-follow case. And journalists are in the street rallying to improve the shield laws. The shield laws are our laws -- pretty much a patchwork of state laws -- that prevent a journalist from having to betray a source. This is happening, however, against the background of the rise of Web logging. Web logging is a classic example of mass amateurization. It has de-professionalized publishing. Want to publish globally anything you think today? It is a one-button operation that you can do for free. That has sent the professional class of publishing down into the ranks of mass amateurization. And so the shield law, as much as we want it -- we want a professional class of truth-tellers -- it is becoming increasingly incoherent, because the institution is becoming incoherent. There are people in the States right now tying themselves into knots, trying to figure out whether or not bloggers are journalists. And the answer to that question is, it doesn't matter, because that's not the right question. Journalism was an answer to an even more important question, which is, how will society be informed? How will they share ideas and opinions? And if there is an answer to that that happens outside the professional framework of journalism, it makes no sense to take a professional metaphor

and apply it to this distributed class. So as much as we want the shield laws, the background -- the institution to which they were attached -- is becoming incoherent.

Here's another example. Pro-ana, the pro-ana groups. These are groups of teenage girls who have taken on Web logs, bulletin boards, other kinds of cooperative infrastructure, and have used it to set up support groups for remaining anorexic by choice. They post pictures of thin models, which they call "thinspiration." They have little slogans, like "Salvation through Starvation." They even have Lance Armstrong-style bracelets, these red bracelets, which signify, in the small group, I am trying to maintain my eating disorder. They trade tips, like, if you feel like eating something, clean a toilet or the litter box. The feeling will pass.

We're used to support groups being beneficial. We have an attitude that support groups are inherently beneficial. But it turns out that the logic of the support group is value neutral. A support group is simply a small group that wants to maintain a way of living in the context of a larger group. Now, when the larger group is a bunch of drunks, and the small group wants to stay sober, then we think, that's a great support group. But when the small group is teenage girls who want to stay anorexic by choice, then we're horrified. What's happened is that the normative goals of the support groups that we're used to, came from the institutions that were framing them, and not from the infrastructure. Once the infrastructure becomes generically available, the logic of the support group has been revealed to be accessible to anyone, including people pursuing these kinds of goals.

So, there are significant downsides to these changes as well as upsides. And of course, in the current environment, one need allude only lightly to the work of non-state actors trying to influence global affairs, and taking advantage of these.

As with the printing press, if it's really a revolution, it doesn't take us from Point A to Point B. It takes us from Point A to chaos. The printing press precipitated 200 years of chaos, moving from a world where the Catholic Church was the sort of organizing political force to the Treaty of Westphalia, when we finally knew what the new unit was: the nation state.

But it will not be 200 years of chaos as a result of this. 50 years in which loosely coordinated groups are going to be given increasingly high leverage, and the more those groups forego traditional institutional imperatives -- like deciding in advance what's going to happen, or the profit motive -- the more leverage they'll get. And institutions are going to come under an increasing degree of pressure, and the more rigidly managed, and the more they rely on information monopolies, the greater the pressure is going to be. And that's going to happen one arena at a time, one institution at a time. The forces are general, but the results are going to be specific.

The point is that it's going to be a massive readjustment. And since we can see it in advance and know it's coming, my argument is essentially: we might as well get good at it.

How great leaders inspire action.

How do you explain when things don't go as we assume? Or better, how do you explain when others are able to achieve things that seem to defy all of the assumptions? For example: Why is Apple so innovative? Year after year, after year, after year, they're more innovative than all their competition. And yet, they're just a computer company. They're just like everyone else. They have the same access to the same talent, the same agencies, the same consultants, the same media. Then why is it that they seem to have something different? Why is it that Martin

Luther King led the Civil Rights Movement? He wasn't the only man who suffered in a pre-civil rights America, and he certainly wasn't the only great orator of the day. Why him? And why is it that the Wright brothers were able to figure out controlled, powered man flight when there were certainly other teams who were better qualified, better funded ... and they didn't achieve powered man flight, and the Wright brothers beat them to it. There's something else at play here.

Whether it's Apple or Martin Luther King or the Wright brothers they all think, act and communicate the exact same way. And it's the complete opposite to everyone else.

Why? How? What? This explains why some organizations and some leaders are able to inspire where others aren't. Let's define the terms really quickly. Every single person, every single organization on the planet knows what they do, 100 percent. Some know how they do it, whether you call it your differentiated value proposition or your proprietary process or your USP. But very, very few people or organizations know why they do what they do. And by "why" I don't mean "to make a profit." That's a result. It's always a result. By "why," I mean: What's your purpose? What's your cause? What's your belief? Why does your organization exist? Why do you get out of bed in the morning? And why should anyone care? Well, as a result, the way we think, the way we act, the way we communicate is from the outside in. It's obvious. We go from the clearest thing to the fuzziest thing. But the inspired leaders and the inspired organizations, regardless of their size, regardless of their industry, all think, act and communicate from the inside out.

Let's analyze an example. We use Apple because they're easy to understand and everybody gets it. If Apple were like everyone else, a marketing message from them might sound like this: "We make great computers. They're beautifully designed, simple to use and user friendly. Want to buy one?" "Meh." And that's how most of us communicate. That's how most marketing is done, that's how most sales it's done and that's how most of us communicate interpersonally. We say what we do, we say how we're different or how we're better and we expect some sort of a behavior, a purchase, a vote, something like that. Here's our new law firm: We have the best lawyers with the biggest clients, we always perform for our clients who do business with us. Here's our new car: It gets great gas mileage, it has leather seats, buy our car. But it's uninspiring.

Here's how Apple actually communicates. "Everything we do, we believe in challenging the status quo. We believe in thinking differently. The way we challenge the status quo is by making our products beautifully designed, simple to use and user friendly. We just happen to make great computers. Want to buy one?" Totally different right? You're ready to buy a computer from me. They reverse the order of the information. What it proves to us is that people don't buy what you do; people buy why you do it. People don't buy what you do; they buy why you do it.

This explains why many persons are perfectly comfortable buying a computer from Apple. But we're also perfectly comfortable buying an MP3 player from Apple, or a phone from Apple, or a DVR from Apple. But, as we know, Apple's just a computer company. There's nothing that distinguishes them structurally from any of their competitors. Their competitors are all equally qualified to make all of these products. In fact, they tried. A few years ago, Gateway came out with flat screen TVs. They're eminently qualified to make flat screen TVs. They've been making flat screen monitors for years. Nobody bought one. Dell came out with MP3 players and PDA's, and they make great quality products, and they can make perfectly well-designed products but nobody bought one. In fact, talking about it now, we can't even

imagine buying an MP3 player from Dell. Why would you buy an MP3 player from a computer company? But we do it every day. People don't buy what you do; they buy why you do it. The goal is not to do business with everybody who needs what you have. The goal is to do business with people who believe what you believe. Here's the best part: It's all grounded in the tenets of biology. Not psychology, biology. If you look at a cross-section of the human brain, looking from the top down, what you see is the human brain is actually broken into three major components that correlate perfectly with the golden circle. Our newest brain, our Homo sapien brain, our neocortex, corresponds with the "what" level. The neocortex is responsible for all of our rational and analytical thought and language. The middle two sections make up our limbic brains, and our limbic brains are responsible for all of our feelings, like trust and loyalty. It's also responsible for all human behavior, all decision-making, and it has no capacity for language.

In other words, when we communicate from the outside in, yes, people can understand vast amounts of complicated information like features and benefits and facts and figures. It just doesn't drive behavior. When we can communicate from the inside out, we're talking directly to the part of the brain that controls behavior, and then we allow people to rationalize it with the tangible things we say and do. This is where gut decisions come from. You know, sometimes you can give somebody all the facts and figures, and they say, "I know what all the facts and details say, but it just doesn't feel right." Why would we use that verb, it doesn't "feel" right? Because the part of the brain that controls decision-making doesn't control language. And the best we can muster up is, "I don't know. It just doesn't feel right." Or sometimes you say you're leading with your heart, or you're leading with your soul. Well, I hate to break it to you; those aren't other body parts controlling your behavior. It's all happening here in your limbic brain, the part of the brain that controls decision-making and not language.

But if you don't know why you do what you do, and people respond to why you do what you do, then how will you ever get people to vote for you, or buy something from you, or, more importantly, be loyal and want to be a part of what it is that you do. Again, the goal is not just to sell to people who need what you have; the goal is to sell to people who believe what you believe. The goal is not just to hire people who need a job; it's to hire people who believe what you believe. I always say that, you know, if you hire people just because they can do a job, they'll work for your money, but if you hire people who believe what you believe, they'll work for you with blood and sweat and tears. And nowhere else is there a better example of this than with the Wright brothers.

Most people don't know about Samuel Pierpont Langley. And back in the early 20th century, the pursuit of powered man flight was like the dot com of the day. Everybody was trying it. And Samuel Pierpont Langley had, what we assume, to be the recipe for success. I mean, even now, you ask people, "Why did your product or why did your company fail?" and people always give you the same permutation of the same three things: under-capitalized, the wrong people, bad market conditions. It's always the same three things, so let's explore that. Samuel Pierpont Langley was given 50,000 dollars by the War Department to figure out this flying machine. Money was no problem. He held a seat at Harvard and worked at the Smithsonian and was extremely well-connected; he knew all the big minds of the day. He hired the best minds money could find and the market conditions were fantastic. The New York Times followed him around everywhere, and everyone was rooting for Langley. Then how come we've never heard of Samuel Pierpont Langley?

A few hundred miles away in Dayton Ohio, Orville and Wilbur Wright, they had none of what we consider to be the recipe for success. They had no money; they paid for their dream with the proceeds from their bicycle shop; not a single person on the Wright brothers' team had a college education, not even Orville or Wilbur; and The New York Times followed them around nowhere. The difference was, Orville and Wilbur were driven by a cause, by a purpose, by a belief. They believed that if they could figure out this flying machine, it'll change the course of the world. Samuel Pierpont Langley was different. He wanted to be rich, and he wanted to be famous. He was in pursuit of the result. He was in pursuit of the riches. And lo and behold, look what happened. The people who believed in the Wright brothers' dream worked with them with blood and sweat and tears. The others just worked for the paycheck. And they tell stories of how every time the Wright brothers went out, they would have to take five sets of parts, because that's how many times they would crash before they came in for supper.

And, eventually, on December 17th, 1903, the Wright brothers took flight, and no one was there to even experience it. We found out about it a few days later. And further proof that Langley was motivated by the wrong thing: The day the Wright brothers took flight, he quit. He could have said, "That's an amazing discovery, guys, and I will improve upon your technology," but he didn't. He wasn't first, he didn't get rich, he didn't get famous so he quit.

People don't buy what you do; they buy why you do it. And if you talk about what you believe, you will attract those who believe what you believe. But why is it important to attract those who believe what you believe? Something called the law of diffusion of innovation, and if you don't know the law, you definitely know the terminology. The first two and a half percent of our population are our innovators. The next 13 and a half percent of our population are our early adopters. The next 34 percent are your early majority, your late majority and your laggards. The only reason these people buy touch tone phones is because you can't buy rotary phones anymore.

We all sit at various places at various times on this scale, but what the law of diffusion of innovation tells us is that if you want mass-market success or mass-market acceptance of an idea, you cannot have it until you achieve this tipping point between 15 and 18 percent market penetration, and then the system tips. When ask the business mans, "What's your conversion on new business?" And they love to tell you, "Oh, it's about 10 percent," proudly. Well, you can trip over 10 percent of the customers. We all have about 10 percent who just "get it." That's how we describe them, right? That's like that gut feeling, "Oh, they just get it." The problem is: How do you find the ones that get it before you're doing business with them versus the ones who don't get it? So it's this here, this little gap that you have to close, as Jeffrey Moore calls it, "Crossing the Chasm", because, you see, the early majority will not try something until someone else has tried it first. And these guys, the innovators and the early adopters, they're comfortable making those gut decisions. They're more comfortable making those intuitive decisions that are driven by what they believe about the world and not just what product is available.

These are the people who stood in line for six hours to buy an iPhone when they first came out, when you could have just walked into the store the next week and bought one off the shelf. These are the people who spent 40,000 dollars on flat screen TVs when they first came out, even though the technology was substandard. And, by the way, they didn't do it because the technology was so great; they did it for themselves. It's because they wanted to be first. People don't buy what you do; they buy why you do it and what you do simply proves what you believe. In fact, people will do the things that prove what they believe. The reason that

person bought the iPhone in the first six hours, stood in line for six hours, was because of what they believed about the world, and how they wanted everybody to see them: They were first. People don't buy what you do; they buy why you do it.

Let's now analyze a famous example, a famous failure and a famous success of the law of diffusion of innovation. First, the famous failure. It's a commercial example. As we said before, a second ago, the recipe for success is money and the right people and the right market conditions, right? You should have success then. Look at TiVo. From the time TiVo came out about eight or nine years ago to this current day, they are the single highest-quality product on the market, hands down, there is no dispute. They were extremely well-funded. Market conditions were fantastic. I mean, we use TiVo as verb.

But TiVo's a commercial failure. They've never made money. And when they went IPO, their stock was at about 30 or 40 dollars and then plummeted, and it's never traded above 10. In fact, I don't think it's even traded above six, except for a couple of little spikes. Because you see, when TiVo launched their product they told us all what they had. They said, "We have a product that pauses live TV, skips commercials, rewinds live TV and memorizes your viewing habits without you even asking." And the cynical majority said, "We don't believe you. We don't need it. We don't like it. You're scaring us." What if they had said, "If you're the kind of person who likes to have total control over every aspect of your life, boy, do we have a product for you. It pauses live TV, skips commercials, memorizes your viewing habits, etc., etc." People don't buy what you do; they buy why you do it, and what you do simply serves as the proof of what you believe.

A successful example of the law of diffusion of innovation. In the summer of 1963, 250,000 people showed up on the mall in Washington to hear Dr. King speak. They sent out no invitations, and there was no website to check the date. How do you do that? Well, Dr. King wasn't the only man in America who was a great orator. He wasn't the only man in America who suffered in a pre-civil rights America. In fact, some of his ideas were bad. But he had a gift. He didn't go around telling people what needed to change in America. He went around and told people what he believed. "I believe, I believe, I believe," he told people. And people who believed what he believed took his cause, and they made it their own, and they told people. And some of those people created structures to get the word out to even more people. And lo and behold, 250,000 people showed up on the right day at the right time to hear him speak.

How many of them showed up for him? Zero. They showed up for themselves. It's what they believed about America that got them to travel in a bus for eight hours to stand in the sun in Washington in the middle of August. It's what they believed, and it wasn't about black versus white: 25 percent of the audience was white. Dr. King believed that there are two types of laws in this world: those that are made by a higher authority and those that are made by man. And not until all the laws that are made by man are consistent with the laws that are made by the higher authority will we live in a just world. It just so happened that the Civil Rights Movement was the perfect thing to help him bring his cause to life. We followed, not for him, but for ourselves. And, by the way, he gave the "I have a dream" speech, not the "I have a plan" speech.

Listen to politicians now, with their comprehensive 12-point plans. They're not inspiring anybody. Because there are leaders and there are those who lead. Leaders hold a position of power or authority, but those who lead inspire us. Whether they're individuals or organizations, we follow those who lead, not because we have to, but because we want to. We

follow those who lead, not for them, but for ourselves. And it's those who start with "why" that has the ability to inspire those around them or find others who inspire them.

Cities

Cities are the crucible of civilization. They have been expanding, urbanization has been expanding, at an exponential rate in the last 200 years so that by the second part of this century, the planet will be completely dominated by cities. Cities are the origins of global warming, impact on the environment, health, pollution, disease, finance, economies, energy -- they're all problems that are confronted by having cities. That's where all these problems come from. And the tsunami of problems that we feel we're facing in terms of sustainability questions are actually a reflection of the exponential increase in urbanization across the planet.

Here's some numbers. Two hundred years ago, the United States was less than a few percent urbanized. It's now more than 82 percent. The planet has crossed the halfway mark a few years ago. China's building 300 new cities in the next 20 years. Now listen to this: Every week for the foreseeable future, until 2050, every week more than a million people are being added to our cities. This is going to affect everything and everyone. However, cities, despite having this negative aspect to them, are also the solution. Because cities are the vacuum cleaners and the magnets that have sucked up creative people, creating ideas, innovation, wealth and so on. So we have this kind of dual nature. And so there's an urgent need for a scientific theory of cities.

We need a serious scientific theory of cities. And scientific theory means quantifiable relying on underlying generic principles that can be made into a predictive framework. That's the quest. Is that conceivable? Are there universal laws? Are cities part of biology? Is London a great big whale? Is Edinburgh a horse? Is Microsoft a great big anthill? What do we learn from that? We use them metaphorically - the DNA of a company, the metabolism of a city, and so on - is that just bullshit, metaphorical bullshit, or is there serious substance to it? And if that is the case, how come that it's very hard to kill a city? You could drop an atom bomb on a city, and 30 years later it's surviving. Very few cities fail. All companies die, all companies. If you have a serious theory, you should be able to predict when Google is going to go bust.

So the route in is recognizing one of the most extraordinary things about life, is that it is scalable, it works over an extraordinary range. The same principles, the same dynamics, the same organization is at work in all of these, including us, and it can scale over a range of 100 million in size. And that is one of the main reasons life is so resilient and robust, scalability.

But you know, at a local level, you scale; everybody is scaled. That's called growth. You grow very quickly and then you stop. Very, very good for biology also one of the reasons for its great resilience. Very, very bad for economies and companies and cities in our present paradigm. This is what our whole economy is thrusting upon us.

Something else is going on. The bigger you are systematically, according to very well-defined rules, less energy per capita you'll use.

And the reason for this is because of networks. All of life is controlled by networks -- from the intracellular through the multicellular through the ecosystem level. If you take those networks, this idea of networks, and you apply universal principles, mathematizable, universal principles, all of these scalings and all of these constraints follow, including the description of

the forest, the description of your circulatory system, the description within cells, the pace of life decreases as you get bigger. Heart rates are slower; you live longer; diffusion of oxygen and resources across membranes is slower, etc.

The question is: Is any of this true for cities and companies? So is London a scaled up Birmingham, which is a scaled up Brighton, etc., etc.? Is New York a scaled up San Francisco, which is a scaled up Santa Fe? Don't know. But they are networks, and the most important network of cities is you. Cities are just a physical manifestation of your interactions, our interactions, and the clustering and grouping of individuals.

The number of petrol stations in the city for example, less petrol stations per capita the bigger you are -- not surprising. But here's what's surprising. It scales in the same way everywhere, in European countries, in Japan or China or Colombia, always the same with the same kind of economy of scale to the same degree. And any infrastructure you look at -- whether it's the length of roads, length of electrical lines -- anything you look at has the same economy of scale scaling in the same way. It's an integrated system that has evolved despite all the planning and so on. But even more surprising is if you look at socio-economic quantities, quantities that have no analog in biology, that have evolved when we started forming communities 8 to 10,000 years ago. The bigger you are the more you have per capita, unlike biology, higher wages, more super-creative people per capita as you get bigger, more patents per capita, more crime per capita.

If you double the size of a city from 100,000 to 200,000, from a million to two million, 10 to 20 million, then systematically you get a 15 percent increase in wages, wealth, number of AIDS cases, number of police, anything you can think of. It goes up by 15 percent, and you have a 15 percent savings on the infrastructure. This, no doubt, is the reason why a million people a week are gathering in cities. Because they think that all those wonderful things - like creative people, wealth, income - is what attracts them, forgetting about the ugly and the bad.

This is the social networks, because this is a universal phenomenon. This 15 percent rule is true no matter where you are on the planet, Japan, Chile, Portugal, Scotland, doesn't matter. Always, all the data shows it's the same, despite the fact that these cities have evolved independently. Something universal is going on. The universality, to repeat, is us that we are the city. And it is our interactions and the clustering of those interactions. So if it is those networks and their mathematical structure, unlike biology, which had sublinear scaling, economies of scale, you had the slowing of the pace of life as you get bigger. If it's social networks with super-linear scaling -- more per capita -- then the theory says that you increase the pace of life. The bigger you are, life gets faster.

How about growth? This is what we had in biology, just to repeat. Economies of scale gave rise to this sigmoidal behavior. You grow fast and then stop, part of our resilience. That would be bad for economies and cities. And indeed, one of the wonderful things about the theory is that if you have super-linear scaling from wealth creation and innovation, then indeed you get, from the same theory, a beautiful rising exponential curve. And in fact, if you compare it to data, it fits very well with the development of cities and economies. But it has a terrible catch, and the catch is that this system is destined to collapse. And it's destined to collapse for many reasons, kind of Malthusian reasons that you run out of resources. And how do you avoid that? Well we've done it before.

What we do is, as we grow and we approach the collapse, a major innovation takes place and we start over again, and we start over again as we approach the next one, and so on. So there's

this continuous cycle of innovation that is necessary in order to sustain growth and avoid collapse. The catch, however, to this is that you have to innovate faster and faster and faster. So the image is that we're not only on a treadmill that's going faster, but we have to change the treadmill faster and faster. We have to accelerate on a continuous basis. And the question is: Can we, as socio-economic beings, avoid a heart attack?

The companies also scale. After some little fluctuations at the beginning, when companies are innovating, they scale. What is astonishing about companies is that they scale sublinearly like biology, indicating that they're dominated, not by super-linear innovation and ideas; they become dominated by economies of scale. If it has this sublinear scaling, the theory says we should have sigmoidal growth.

The cognitive surplus

The cognitive surplus represents the ability of the world's population to volunteer and to contribute and collaborate on large, sometimes at global projects like ushahidi.com. Cognitive surplus is made up of two things. The first is the world's free time and talents. The world has over a trillion hours a year of free time to commit to shared projects. Now, that free time existed in the 20th century, but we didn't get Ushahidi in the 20th century.

That's the second half of cognitive surplus. The media landscape in the 20th century was very good at helping people consume, and we got, as a result, very good at consuming. But now that we've been given media tools -- the Internet, mobile phones -- that let us do more than consume, what we're seeing is that people weren't couch potatoes because we liked to be. We were couch potatoes because that was the only opportunity given to us. We still like to consume, of course. But it turns out we also like to create, and we like to share. And it's those two things together -- ancient human motivation and the modern tools to allow that motivation to be joined up in large-scale efforts -- that are the new design resource. And using cognitive surplus, we're starting to see truly incredible experiments in designing scientific, literary, artistic, political efforts.

We're also getting, of course, a lot of LOL-cats. LOL-cats are cute pictures of cats made cuter with the addition of cute captions. And they are also part of the abundant media landscape we're getting now. This is one of the participatory models we see coming out of that, along with Ushahidi. Now I want to stipulate that LOL-cats are the stupidest possible creative act. There are other candidates of course, but LOL-cats will do as a general case. But here's the thing: The stupidest possible creative act is still a creative act. Someone who has done something like this, however mediocre and throwaway, has tried something, has put something forward in public. And once they've done it, they can do it again, and they could work on getting it better.

There is a spectrum between mediocre work and good work, and as anybody who's worked as an artist or a creator knows, it's a spectrum you're constantly struggling to get on top of. The gap is between doing anything and doing nothing. And someone who makes a LOL-cat has already crossed over that gap. Now it's tempting to want to get the ushahidi’s without the LOL-cats, to get the serious stuff without the throwaway stuff. But media abundance never works that way. Freedom to experiment means freedom to experiment with anything. Even with the sacred printing press, we got erotic novels 150 years before we got scientific journals.

The critical difference between LOL-cats and Ushahidi, reside into their shared source. And that source is design for generosity. It is one of the curiosities of our historical era that even as cognitive surplus is becoming a resource we can design around, social sciences are also starting to explain how important our intrinsic motivations are to us, how much we do things because we like to do them rather than because our boss told us to do them, or because we're being paid to do them.

At the beginning of this decade Uri Gneezy and Aldo Rustichini, comes with what they called "deterrence theory." And deterrence theory is a very simple theory of human behavior: If you want somebody to do less of something, add a punishment and they'll do less of it. Simple, straightforward, commonsensical -- also, largely untested. And so they went and studied 10 daycare centers in Haifa, Israel. They studied those daycare centers at the time of highest tension, which is pick-up time. At pick-up time the teachers, who have been with your children all day, would like you to be there at the appointed hour to take your children back. Meanwhile, the parents -- perhaps a little busy at work, running late, running errands -- want a little slack to pick the kids up late.

So Gneezy and Rustichini said, "How many instances of late pick-ups are there at these 10 daycare centers?" Now they saw -- and this is what the graph is, these are the number of weeks and these are the number of late arrivals -- that there were between six and 10 instances of late pick-ups on average in these 10 daycare centers. So they divided the daycare centers into two groups. The white group there is the control group; they change nothing. But the group of daycare centers represented by the black line, they said, "We are changing this bargain as of right now. If you pick your kid up more than 10 minutes late, we're going to add a 10 shekel fine to your bill. Boom. No ifs, ands or buts."

And the minute they did that, the behavior in those daycare centers changed. Late pick-ups went up every week for the next four weeks until they topped out at triple the pre-fine average, and then they fluctuated at between double and triple the pre-fine average for the life of the fine. And you can see immediately what happened, right? The fine broke the culture of the daycare center. By adding a fine, what they did was communicate to the parents that their entire debt to the teachers had been discharged with the payment of 10 shekels, and that there was no residue of guilt or social concern that the parents owed the teachers.

The explanation of human behavior that we inherited in the 20th century was that we are all rational, self-maximizing actors, and in that explanation -- the daycare center had no contract -- should have been operating without any constraints. But that's not right. They were operating with social constraints rather than contractual ones. And critically, the social constraints created a culture that was more generous than the contractual constraints did. So Gneezy and Rustichini run this experiment for a dozen weeks -- run the fine for a dozen weeks -- and then they say, "Okay, that's it. All done; fine." And then a really interesting thing happens: Nothing changes. The culture that got broken by the fine stayed broken when the fine was removed. Not only are economic motivations and intrinsic motivations incompatible, that incompatibility can persist over long periods. So the trick in designing these kinds of situations is to understand where you're relying on the economic part of the bargain -- as with the parents paying the teachers -- and when you're relying on the social part of the bargain, when you're really designing for generosity.

The same with LOL-cats and Ushahidi. Both of them rely on cognitive surplus. Both of these design for the assumption that people like to create and we want to share. Here is the critical difference between these: LOL-cats is communal value. It's value created by the participants

for each other. Communal value on the networks we have is everywhere -- every time you see a large aggregate of shared, publicly available data, whether it's photos on Flickr or videos on Youtube or whatever. This is good. I like LOL-cats as much as the next guy, maybe a little more even, but this is also a largely solved problem. I have a hard time envisioning a future in which someone is saying, "Where, oh where, can I find a picture of a cute cat?"

Ushahidi, by contrast, is civic value. It's value created by the participants but enjoyed by society as a whole. The goals set out by Ushahidi are not just to make life better for the participants, but to make life better for everyone in the society in which Ushahidi is operating. And that kind of civic value is not just a side effect of opening up to human motivation. It really is going to be a side effect of what we, collectively, make of these kinds of efforts. There are a trillion hours a year of participatory value up for grabs. That will be true year-in and year-out. The number of people who are going to be able to participate in these kinds of projects is going to grow, and we can see that organizations designed around a culture of generosity can achieve incredible effects without an enormous amount of contractual overhead -- a very different model than our default model for large-scale group action in the 20th century.

We've got a choice before us. We've got this trillion hours a year. We can use it to crack each other up, and we're going to do that. That, we get for free. But we can also celebrate and support and reward the people trying to use cognitive surplus to create civic value. And to the degree we're going to do that, to the degree we're able to do that, we'll be able to change society.

About collaboration

Here is the old story on how humans and other creatures get things done: biology is war in which only the fiercest survive; businesses and nations succeed only by defeating, destroying and dominating competition. Politics is about your side winning at all costs. But nowadays we can see the very beginnings of a new story beginning to emerge. It's a narrative spread across a number of different disciplines, in which cooperation, collective action and complex interdependencies play a more important role. And the central, but not all-important, role of competition and survival of the fittest shrinks just a little bit to make room.

The relationship between communication, media and collective action are in fact, if you look back at human communication media and the ways in which we organize socially, have been co-evolving for quite a long time. Humans have lived for much, much longer than the approximately 10,000 years of settled agricultural civilization

In small family groups, nomadic hunters bring down rabbits, gathering food. The form of wealth in those days was enough food to stay alive. But at some point, they banded together to hunt bigger game. And we don't know exactly how they did this, although they must have solved some collective action problems; it only makes sense that you can't hunt mastodons while you're fighting with the other groups.

And again, we have no way of knowing, but it's clear that a new form of wealth must have emerged. More protein than a hunter's family could eat before it rotted. So that raised a social question that must have driven new social forms. Did the people who ate that mastodon meat owe something to the hunters and their families? And if so, how did they make arrangements? Again, we can't know, but we can be pretty sure that some form of symbolic communication must have been involved.

With agriculture came the first big civilizations, the first cities built of mud and brick, the first empires. And it was the administers of these empires who began hiring people to keep track of the wheat and sheep and wine that was owed and the taxes that was owed on them by making marks; marks on clay in that time.

Not too much longer after that, the alphabet was invented. And this powerful tool was really reserved, for thousands of years, for the elite administrators who kept track of accounts for the empires. And then another communication technology enabled new media: the printing press came along, and within decades, millions of people became literate. And from literate populations, new forms of collective action emerged in the spheres of knowledge, religion and politics. We saw scientific revolutions, the Protestant Reformation, constitutional democracies possible where they had not been possible before. Not created by the printing press, but enabled by the collective action that emerges from literacy. And again, new forms of wealth emerged.

Now, commerce is ancient. Markets are as old as the crossroads. But capitalism, as we know it, is only a few hundred years old, enabled by cooperative arrangements and technologies, such as the joint-stock ownership company, shared liability insurance, double-entry bookkeeping.

Now of course, the enabling technologies are based on the Internet, and in the many-to-many era, every desktop is now a printing press, a broadcasting station, a community or a marketplace. Evolution is speeding up. More recently, that power is un-tethering and leaping off the desktops, and very, very quickly, we're going to see a significant proportion, if not the majority of the human race, walking around holding, carrying or wearing supercomputers linked at speeds greater than what we consider to be broadband today.

When you start looking into collective action, the considerable literature on it is based on what sociologists call "social dilemmas." And there are a couple of mythic narratives of social dilemmas: the prisoner's dilemma and the tragedy of the commons.

The prisoner's dilemma is actually a story that's overlaid on a mathematical matrix that came out of the game theory in the early years of thinking about nuclear war: two players who couldn't trust each other. Basically every unsecured transaction is a good example of a prisoner's dilemma. Person with the goods, person with the money, because they can't trust each other, are not going to exchange. Neither one wants to be the first one or they're going to get the sucker's payoff, but both lose, of course, because they don't get what they want. If they could only agree, if they could only turn a prisoner's dilemma into a different payoff matrix called an assurance game, they could proceed.

Twenty years ago, Robert Axelrod used the prisoner's dilemma as a probe of the biological question: if we are here because our ancestors were such fierce competitors, how does cooperation exist at all? He started a computer tournament for people to submit prisoner's dilemma strategies and discovered, much to his surprise, that a very, very simple strategy won -- it won the first tournament, and even after everyone knew it won, it won the second tournament -- that's known as tit for tat.

Another economic game that may not be as well known as the prisoner's dilemma is the ultimatum game, and it's also a very interesting probe of our assumptions about the way

people make economic transactions. Here's how the game is played: there are two players; they've never played the game before, they will not play the game again, they don't know each other, and they are, in fact, in separate rooms. First player is offered a hundred dollars and is asked to propose a split: 50/50, 90/10, whatever that player wants to propose. The second player either accepts the split -- both players are paid and the game is over -- or rejects the split -- neither player is paid and the game is over.

Now, the fundamental basis of neoclassical economics would tell you it's irrational to reject a dollar because someone you don't know in another room is going to get 99. Yet in thousands of trials with American and European and Japanese students, a significant percentage would reject any offer that's not close to 50/50. And although they were screened and didn't know about the game and had never played the game before, proposers seemed to innately know this because the average proposal was surprisingly close to 50/50.

Now, the interesting part comes in more recently when anthropologists began taking this game to other cultures and discovered, to their surprise, that slash-and-burn agriculturalists in the Amazon or nomadic pastoralists in Central Asia or a dozen different cultures -- each had radically different ideas of what is fair. Which suggests that instead of there being an innate sense of fairness, that somehow the basis of our economic transactions can be influenced by our social institutions, whether we know that or not.

The other major narrative of social dilemmas is the tragedy of the commons. Garrett Hardin used it to talk about overpopulation in the late 1960s. He used the example of a common grazing area in which each person by simply maximizing their own flock led to overgrazing and the depletion of the resource. He had the rather gloomy conclusion that humans will inevitably despoil any common pool resource in which people cannot be restrained from using it.

Now, Elinor Ostrom, a political scientist, in 1990 asked the interesting question that any good scientist should ask, which is: is it really true that humans will always despoil commons? So she went out and looked at what data she could find. She looked at thousands of cases of humans sharing watersheds, forestry resources, fisheries, and discovered that yes, in case after case, humans destroyed the commons that they depended on. But she also found many instances in which people escaped the prisoner's dilemma; in fact, the tragedy of the commons is a multiplayer prisoner's dilemma. And she said that people are only prisoners if they consider themselves to be. They escape by creating institutions for collective action. And she discovered, I think most interestingly, that among those institutions that worked, there were a number of common design principles, and those principles seem to be missing from those institutions that don't work.

In biology, the notions of symbiosis, group selection, evolutionary psychology are contested, to be sure. But there is really no longer any major debate over the fact that cooperative arrangements have moved from a peripheral role to a central role in biology, from the level of the cell to the level of the ecology. And again, our notions of individuals as economic beings have been overturned. Rational self-interest is not always the dominating factor. In fact, people will act to punish cheaters, even at a cost to themselves.

And most recently, neuro-physiological measures have shown that people who punish cheaters in economic games show activity in the reward centers of their brain. This led one scientist to declare that altruistic punishment may be the glue that holds societies together.

New forms of communication and new media in the past have helped create new economic forms. Commerce is ancient. Markets are very old. Capitalism is fairly recent; socialism emerged as a reaction to that. And yet we see very little talk about how the next form may be emerging. Jim Surowiecki briefly mentioned Yochai Benkler's paper about open source, pointing to a new form of production: peer-to-peer production. If in the past, new forms of cooperation enabled by new technologies create new forms of wealth, we may be moving into yet another economic form that is significantly different from previous ones.

Some of the fiercest competitors in the IT world are open sourcing their software, are providing portfolios of patents for the commons. Eli Lilly -- in the fiercely competitive pharmaceutical world -- has created a market for solutions for pharmaceutical problems. Toyota, instead of treating its suppliers as a marketplace, treats them as a network and trains them to produce better, even if they produce better for their competitors. Now none of these companies are doing this out of altruism; they're doing it because they're learning that a certain kind of sharing is in their self-interest.

Open source production has shown us that world-class software, like Linux and Mozilla, can be created with neither the bureaucratic structure of the firm nor the incentives of the marketplace as we've known them. Google enriches itself by enriching thousands of bloggers through AdSense. Amazon has opened its Application Programming Interface to 60,000 developers, countless Amazon shops. They're enriching others, not out of altruism but as a way of enriching themselves. eBay solved the prisoner's dilemma and created a market where none would have existed by creating a feedback mechanism that turns a prisoner's dilemma game into an assurance game.

Instead of, "Neither of us can trust each other, so we have to make suboptimal moves," it's, "You prove to me that you are trustworthy and I will cooperate." Wikipedia has used thousands of volunteers to create a free encyclopedia with a million and a half articles in 200 languages in just a couple of years.

We've seen that ThinkCycle has enabled NGOs in developing countries to put up problems to be solved by design students around the world, including something that's being used for tsunami relief right now: it's a mechanism for rehydrating cholera victims that's so simple to use it; illiterates can be trained to use it. BitTorrent turns every downloader into an uploader, making the system more efficient the more it is used.

Millions of people have contributed their desktop computers when they're not using them to link together through the Internet into supercomputing collectives that help solve the protein folding problem for medical researchers -- that's Folding@home at Stanford -- to crack codes, to search for life in outer space. This is all about self-interest that adds up to more. In El Salvador, both sides that withdrew from their civil war took moves that had been proven to mirror a prisoner's dilemma strategy.

In the U.S., in the Philippines, in Kenya, around the world, citizens have self-organized political protests and get out the vote campaigns using mobile devices and SMS. Is an Apollo Project of cooperation possible or a trans-disciplinary study of cooperation? If so, the payoff would be very big. We need to begin developing maps of this territory so that we can talk

about it across disciplines. And I am not saying that understanding cooperation is going to cause us to be better people -- and sometimes people cooperate to do bad things -- but I will remind you that a few hundred years ago, people saw their loved ones die from diseases they thought were caused by sin or foreigners or evil spirits.

Descartes said we need an entire new way of thinking. When the scientific method provided that new way of thinking and biology showed that microorganisms caused disease, suffering was alleviated. What forms of suffering could be alleviated, what forms of wealth could be created if we knew a little bit more about cooperation?

Collaboration vs. Competition

When one looks to nature, we see that competition is everywhere. Organisms must constantly compete with each other for the resources and mates necessary to ensure that their genes are passed on. This is the basis for evolution by natural selection, as first postulated by Charles Darwin.

However, there are also certain species that exhibit a different kind of behavior: cooperation. While this is most evident in humans, it is also present in some other social species, such as our cousins the chimps. But if evolution is driven by competition, where did this cooperative behavior come from? After all, behaviors like cooperation and altruism are often detrimental (at least initially) to the organism, and can result in increased 'fitness' of other potential competitors.

There are a few theories as to how these collaborative behaviors came about. The theory of reciprocal altruism states that an organism will aid another member of its group with the expectation that the favour will be returned. The theory of kin selection states that we are driven by evolution to aid those who are most genetically similar to us (direct and extended family members) in order to ensure that our genes are passed on, whether or not we specifically survive to do the passing. Handicap theory suggests that, like the massive nutrient consuming tails of male peacocks, altruism and cooperation are behaviours developed in order to make us appear more attractive to the opposite sex (essentially, an organism will 'handicap' itself in some way in order to increase sexual success).

Although there is some evidence for each of these theories, none of them alone appears to completely explain the extreme collaborative behaviours found in human society. There is some evidence which suggests that large scale cooperation arose not only out of an evolutionary need, but also from a cultural need. This has been attributed to inter-group violence, where different groups of humans form cooperative tribes in order to successfully compete with other tribes. Interestingly, there is evidence which suggests that periods of inter-tribal violence were highest during times when resources were scarce. In such situations, the ability to cooperate within the group would greatly improve the odds of survival not just for the individual organism, but for the entire group. Conversely, those groups who lacked the ability to cooperate amongst themselves would have been selected against.

The take-home message of these studies is essentially this: cooperation is favorable for survival and it likely arose out of both evolution and cultural advancements, much like competition.

But which type of behavior is more 'natural' for humans? Are we 'inherently' competitive, or is it more natural for us to be cooperative? As it turns out, neither line of thought is entirely correct.

Experiments designed to test the competitive and collaborative behaviors of humans sometimes take the form of artificial 'games' which were often designed to draw conclusions about economic behaviour by involving a system of rewards. This type of research is used in both economics and psychology. While game theory ultimately rests on artificial situations, enough repetition and variation can allow some general inferences to be made regarding the way humans behave in certain situations. For example, one such study testing bargaining behaviour in different situations showed that the personality most favoured (those who were entirely self-serving vs. those who were concerned with fairness) was based on the economic situation presented:

“It turns out that the economic environment determines whether the fair types or the selfish types dominate equilibrium behavior.” - Fehr and Schmidt, 1999

It's also interesting to note the link between competition, cooperation, and self esteem. A study observing levels of self esteem in children made an interesting finding: in societies where competition is encouraged, children associated competition with greater self esteem. However, in societies where cooperation was encouraged, children tended to associate cooperation with greater self-esteem. In either case, it was not some inherent quality of the child, but rather the culture itself that most influenced self-esteem.

What this means for us is this: there is no major natural tendency for humans to be competitive OR cooperative; the type of behaviour favoured is based on the situation at hand. Depending on whether competition or cooperation is called for, humans will do what we do best: adapt to the situation at hand, and present the behaviour that favours our survival.

But which one is ultimately 'better' for us? Does competition increase productivity and happiness, or are these things enhanced by cooperation?

For the sake of clarity, I should note here that when I say 'competition', I am referring to competition involving the potential survival, economic affluence, and general well-being of an individual or group.

Here's another 'game theory' type experiment; this one involved brain imaging while the game was being played. Subjects were presented with a puzzle game that was either played under cooperative rules or competitive rules. It was shown that there was some overlap in the areas of the brain that were activated in either case, but that there was also an important difference: the area of the brain activated under cooperative circumstances indicated that the participants experienced cooperation as being more pleasurable than competition.

In addition, the cooperative groups were far more productive as they were actually able to complete the puzzle. Meanwhile, the competitive groups spent most of their time attempting to thwart each other, resulting in little net progress.

There is however, some evidence in favour of competition, but only in a very specific area: competition increases the speed at which a task is performed. On the other hand, cooperation increases the accuracy with which the same task is performed. In other words, if you want the

job done fast, competition is the way to go. If you want the job done well, you're better off with cooperation.

There are other experiments which seem to suggest similar outcomes under cooperative situations. One such study which evaluated a number of tasks performed by groups of psychology students concluded that “greater productivity occurs when the members of a group are organized in terms of cooperative activities rather than competitive”. This is further supported by a study examining innovation in Japanese companies which suggested that cooperative projects tended to increase the movement of information and the development of new technologies.

There is more to a competitive work environment than just reduced productivity, however. There is also evidence that the stress caused by 'keeping up' in a competitive society is actually having a detrimental effect on our health. This is due to the long term elevation of the stress hormone Cortisol which is associated with increased blood sugar, insulin resistance, loss of muscle mass, loss of bone density, increased abdominal fat storage, decreased immune function, and a variety of other life-shortening effects. One researcher has suggested that attempting to thrive in a competitive society causes a significant increase in the activity of the neural stress pathways and that this increased activity is a major contributor to high blood pressure and metabolic syndrome (the precursor to type 2 diabetes). A specific example of this phenomenon can be seen in those who are forced to take undesirable jobs in order to remain financially competitive. Jobs with low perceived control or with little opportunity for the mastery of skills are associated with chronically elevated Cortisol and reduced ability to decrease Cortisol in the bloodstream following a stressful event. This is indicative of heightened activity in the neural stress pathways, just as predicted in the former study.

It is also worth noting the effect that environmental stressors can have on a human that is yet to be born. A chronically stressed pregnant animal will give birth to a child with heightened sensitivity to stress and higher baseline levels of Cortisol. The negative health effects of living in a stressful environment can literally be passed on to the next generation before they are actually born.

Some of the most alarming evidence against competition is seen in learning ability. Competitive evaluation systems, such as the 'grading' schema used in so many education systems around the world, seem to actively discourage kids from learning. Instead, it encourages them to do the minimum amount of work necessary to avoid 'failure'. In addition, situations of unequal competition (where some kids have a clear advantage over others) are associated with lower academic achievement, increased likelihood of learning disability diagnosis, and increased dropout from voluntary social activities (such as extracurricular sports) in the disadvantaged group.

All in all, the old notion of competition being an unavoidable behaviour that is more productive, more enjoyable, and always leads to higher achievement seems to have little evidential support. Instead, we see that cooperation is far more beneficial to both the individual (in terms of personal success and perceived pleasure) and to society (in terms of productivity).

Ultimately, the only thing competition is universally good for is speed, which happens to fit in nicely with a capitalistic society where 'time is money'.

But in a society without money, what use would competition be other than as a displeasing, self esteem-lowering hindrance to human progress?

Prosperity - an economic reality check.

Lets talk about prosperity, about our hopes for a shared and lasting prosperity. And not just us, but the two billion people worldwide who are still chronically undernourished. And hope actually is at the heart of this. In fact, the Latin word for hope is at the heart of the word prosperity. "Pro-speras," "speras," hope -- in accordance with our hopes and expectations. The irony is, though, that we have cashed-out prosperity almost literally in terms of money and economic growth. And we've grown our economies so much that we now stand in a real danger of undermining hope -- running down resources, cutting down rainforests, spilling oil into the Gulf of Mexico, changing the climate -- and the only thing that has actually remotely slowed down the relentless rise of carbon emissions over the last two to three decades is recession. And recession, isn't exactly a recipe for hope either. So we're caught in a kind of trap. It's a dilemma, a dilemma of growth. We can't live with it; we can't live without it. Trash the system or crash the planet -- it's a tough choice; it isn't much of a choice. And our best avenue of escape from this actually is a kind of blind faith in our own cleverness and technology and efficiency and doing things more efficiently. Imagine a world, in 2050, of around nine billion people, all aspiring to Western incomes, Western lifestyles.

Firms produce goods for households and provide us with incomes, so we can spend those incomes on more goods and services. That's called the circular flow of the economy. It looks harmless enough. But the key feature of this system is the role of investment. Investment constitutes only about a fifth of the national income in most modern economies, but it plays an absolutely vital role. And what it does essentially is to stimulate further consumption growth. It does this in a couple of ways -- chasing productivity, which drives down prices and encourages us to buy more stuff. But lets concentrate on the role of investment in seeking out novelty, the production and consumption of novelty. Joseph Schumpeter called this "the process of creative destruction." It's a process of the production and reproduction of novelty, continually chasing expanding consumer markets, consumer goods, new consumer goods.

It turns out that human beings have something of an appetite for novelty. We love new stuff -- new material stuff for sure -- but also new ideas, new adventures, new experiences. But the materiality matters too, because in every society that anthropologists have looked at, material stuff operates as a kind of language -- a language of goods, a symbolic language that we use to tell each other stories -- stories, for example, about how important we are. Status-driven, conspicuous consumption thrives from the language of novelty. And here, all of a sudden, we have a system that is locking economic structure with social logic -- the economic institutions, and who we are as people, locked together to drive an engine of growth. And this engine is not just economic value; it is pulling material resources relentlessly through the system, driven by our own insatiable appetites, driven in fact by a sense of anxiety. Adam Smith, 200 years ago, spoke about our desire for a life without shame. A life without shame: in his day, what that meant was a linen shirt, and today, well, you still need the shirt, but you need the hybrid car, the HDTV, two holidays a year in the sun, the notebook and iPad, the list goes on -- an almost inexhaustible supply of goods, driven by this anxiety. And even if we don't want them, we need to buy them, because, if we don't buy them, the system crashes. And to stop it crashing over the last two to three decades, we've expanded the money supply, expanded credit and debt, so that people can keep buying stuff. And of course, that expansion was deeply implicated in the crisis.

But in the last 15 years before the crash, consumer debt rose dramatically. And in the mean time, personal savings absolutely plummeted. The savings ratio, net savings, was below zero in the middle of 2008, just before the crash. People expanding debt, drawing down their savings, just to stay in the game. This is a strange, rather perverse, story, just to put it in very simple terms. It's a story about us, people, being persuaded to spend money we don't have on things we don't need to create impressions that won't last on people we don't care about.

But before we consign ourselves to despair, maybe we should just go back and say, "Did we get this right? Is this really how people are? Is this really how economies behave?" And almost straightaway we actually run up against a couple of anomalies. The first one is in the crisis itself. In the crisis, in the recession, what do people want to do? They want to hunker down; they want to look to the future. They want to spend less and save more. But saving is exactly the wrong thing to do from the system point of view. Keynes called this the "paradox of thrift" -- saving slows down recovery. And politicians call on us continually to draw down more debt, to draw down our own savings even further, just so that we can get the show back on the road, so we can keep this growth-based economy going. It's an anomaly; it's a place where the system actually is at odds with who we are as people.

Why is it that we don't do the blindingly obvious things we should do to combat climate change, very, very simple things like buying energy-efficient appliances, putting in efficient lights, turning the lights off occasionally, insulating our homes? These things save carbon, they save energy, they save us money. So is it that, though they make perfect economic sense, we don't do them? What is the objective? "What is the objective of the consumer?" Mary Douglas asked in an essay on poverty written 35 years ago. "It is," she said, "to help create the social world and find a credible place in it." That is a deeply humanizing vision of our lives, and it's a completely different vision than the one that lies at the heart of this economic model. So who are we? Who are these people? Are we these novelty-seeking, hedonistic, selfish individuals? Psychology actually says there is a tension -- a tension between self-regarding behaviors and other regarding behaviors. And these tensions have deep evolutionary roots, so selfish behavior is adaptive in certain circumstances -- fight or flight.

But other regarding behaviors are essential to our evolution as social beings. Perhaps even more interesting from our point of view, another tension between novelty-seeking behaviors and tradition or conservation. Novelty is adaptive when things are changing and you need to adapt yourself. Tradition is essential to lay down the stability to raise families and form cohesive social groups. So here, all of a sudden, we're looking at a map of the human heart. And it reveals to us the crux of the matter. What we've done is we've created economies. We've created systems, which systematically privilege, encourage, one narrow quadrant of the human soul and left the others un-regarded. And in the same token, the solution becomes clear, because this isn't, therefore, about changing human nature. It isn't, in fact, about curtailing possibilities. It is about opening up. It is about allowing ourselves the freedom to become fully human, recognizing the depth and the breadth of the human psyche and building institutions to protect the fragile altruist within.

What does all this mean for economics? What would economies look like if we took that vision of human nature at their heart and stretched them along these orthogonal dimensions of the human psyche? It might look like the 4,000 community-interest companies that have sprung up in the U.K. over the last five years and a similar rise in B corporations in the United States, enterprises that have ecological and social goals written into their constitution at their heart -- companies, like Ecosia. Ecosia is an Internet search engine. Internet search engines work by drawing revenues from sponsored links that appear when you do a search. But in

Ecosia's case, it allocates 80 percent of the revenues to a rainforest protection project in the Amazon. It's taking profits from one place and allocating them into the protection of ecological resources.

It's a different kind of enterprise for a new economy. It's a form, of ecological altruism. Whatever it is, whatever this new economy is, what we need the economy to do, in fact, is to put investment back into the heart of the model, to re-conceive investment. Only now, investment isn't going to be about the relentless and mindless pursuit of consumption growth. Investment has to be a different beast. Investment has to be, in the new economy, protecting and nurturing the ecological assets on which our future depends. It has to be about transition. It has to be investing in low-carbon technologies and infrastructures. We have to invest, in fact, in the idea of a meaningful prosperity, providing capabilities for people to flourish.

It would be nonsense to talk about people flourishing if they didn't have food, clothing and shelter. But it's also clear that prosperity goes beyond this. It has social and psychological aims -- family, friendship, commitments, society, participating in the life of that society. And this too requires investment, investment -- for example, in places -- places where we can connect, places where we can participate, shared spaces, concert halls, gardens, public parks, libraries, museums, quiet centers, places of joy and celebration, places of tranquility and contemplation, sites for the "cultivation of a common citizenship". An investment, after all, is nothing more nor less than a relationship between the present and the future, a shared present and a common future. And we need that relationship to reflect, to reclaim hope.

What hope can we offer to the two billion people still trying to live each day on less than the price of a skinny latte from the cafe next door? It's clear that we have a responsibility to help lift them out of poverty. It's clear that we have a responsibility to make room for growth where growth really matters in those poorest nations. And it's also clear that we will never achieve that unless we're capable of redefining a meaningful sense of prosperity in the richer nations, a prosperity that is more meaningful and less materialistic than the growth-based model. So this is not just a Western post-materialist fantasy. The traditional African concept of ubuntu says, "I am because we are." Prosperity is a shared endeavor. Its roots are long and deep -- its foundations exist already inside each of us. This is not about standing in the way of development. It's not about overthrowing capitalism. It's not about trying to change human nature. We must take a few simple steps towards an economics fit for purpose. And at the heart of that economics, we're placing a more credible, more robust, and more realistic vision of what it means to be human.

The world's population is expected to top out at something a bit less than 10 billion, late this century. And after that, most likely it's going to begin to decline. So what then?

Most of the economic models are built around scarcity and growth. So a lot of economists look at declining population and expect to see stagnation, maybe depression. But a declining population is going to have at least two very beneficial economic effects.

One: fewer people on a fixed amount of land make investing in property a bad bet. In the cities, a lot of the cost of property is actually wrapped up in its speculative value. Take away land speculation, price of land drops. And that begins to lift a heavy burden off the world's poor.

Number two: a declining population means scarce labor. Scarce labor drives wages. As wages increase that also lifts the burden on the poor and the working class. We’re not talking about a

radical drop in population like we saw in the Black Death. But in Europe after the plague: rising wages, land reform, technological innovation, birth of the middle class; and after that, forward-looking social movements like the Renaissance, and later the Enlightenment.

Most of our cultural heritage has tended to look backward, romanticizing the past. All of the Western religions begin with the notion of Eden, and descend through a kind of profligate present to a very ugly future. Human history is viewed as sort of this downhill slide from the good old days.

But now we're in for another change, and social-economic movements and transitions are dangerous times. When land owners start to lose money, and labor demands more pay, there are some powerful interests that are going to fear for the future. Fear for the future leads to some rash decisions. If we have a positive view about the future then we may be able to accelerate through that turn, instead of careening off a cliff.

If we can make it through the next 150 years, your great-great grandchildren will be planning for the future and start to build the 22nd Century Enlightenment.

Chapter 10: Always a key element: Education

"School sucks." - The Horrors of Public Education

Most students will agree, and many have voiced their disgust concerning this abomination we call public education. They spite the good students who obey like little sheep, frown at imposed conformity, and laugh at the hypocritical nature of the system.

The system itself is messed up. What is taught is random, useless, and meaningless. In class, too much time is wasted on useless topics. The quality of education has been sacrificed for quantity, and as a result, academic inflation and the devaluation of information have turned intellectual ambition into apathy and bright minds into gray mush.

In an effort to be multicultural and eclectic, class curricula have become shallow and disorganized in their effort to teach students a global viewpoint. Topics are taught piecemeal, and never do teachers spend time to help students integrate the pieces into a coherent picture that can be used or built upon. And even if within a class the ideas are put together, between classes the grand education still remains compartmentalized.

For example, both geometry and physics can be mastered by the average student, but the connection and communication between the two often are not. When physics is taught in a junior high or high school physics class, it involves only the most elementary of geometry concepts, and vice versa. Without synthesis of the two, each remains without purpose or effectiveness. Such synthesis between topics is neglected in the school curriculum, and consequently one's experience in the public education system becomes a vague memory of random, meaningless, and useless facts, just as a disassembled engine is just a junk heap of random metal parts. Most school subjects themselves aren't even real knowledge. History books are full of purposely engineered inaccuracies and distortions for the sake of corporate gain and political correctness.

Much of school is wasted time. The purpose of education is to make one an independent, competent thinker, one who can make a difference in the world for the better, and one who has the best chance for survival and success in the world. So what the hell are we doing with such profundity of pep rallies, football and basketball games, proms, crazy hair days, sex education, death education, quiz bowls, and student council meetings? Sure, without them, school would be dull. But, school is supposed to be an incubator of young humans to prepare them for excitement in the real world. School is doing more than it's supposed to and has instead become a surrogate provider of such excitement, turning it artificial and socially harmful. Is your vacuum cleaner also supposed to do the dishes, trim your hair, balance your checkbook, and be your friday night date?

So much in school concerns extracurricular activities that time which could be spent on real world activities is instead being wasted in these trivialities. The effect is the amassing of students dependent upon the system and isolated from the real world. Social, financial, and academic dysfunction result. Once again, quantity over quality has prevailed, because there is no profit for the supplier in quality. Quality only helps those in the demand, but when consumers of education have themselves been dumbed down to primal levels, discernment and appreciation of quality disappear.

Despite these problems, almost everyone is happy. Parents are happy. Moms get to watch their soap operas and dads get to work while their kids are being babysat. They don't have to

worry about teaching morality or ethics to their children because it's being done for them in school. They don't have to entertain them or spend genuine time with them because these children are too busy being entertained in school functions. Moms just have to drive their girls to soccer practice, and dads toss the football a few times. Perfectionist parents keep their child competitive not by guiding them and helping them on a daily basis, but by yelling them once a school quarter when report cards come out.

Teachers are happy, as they have a secure job from 8 to 5, and the more they work, the more they get paid. The more school programs there are with federal or state funding, the more money they get. The more schools have the programs, the more funding and perks they receive from federal benefactors.

Everyone is happy, that is, except for the students. But who cares? Who are they to complain? Those with the gold make the rules, and all students have is some pocket change for cookies and milk. As is well known, in school, you spend more time learning how to obey and what to think, instead of and how to think and think for yourself. Fact of the matter is that at least 3/4 of the time spent in school is waste.

Students are not at fault. But that's not the worst part. The worst part is that public schools not only have a crappy curriculum, they actually oppress their students by forcing them to participate in it. It is one thing to offer a profundity of shallow assignments, and quite another to make students do them.

Simply put, students are forcefully occupied with junk to prevent them from learning something useful. Almost everything important I have learned, I learned on my own time outside school. Their tricky scheme is to graduate robots instead of humans.

Students, except for a few genuine slackers, are not at fault when lagging in critical thinking skills. They are not being held back by their own laziness, but by direct oppression from a system with the power to punish them or put a bad mark on their transcripts if they don't give up their individual pursuits of knowledge in favor of hollow schoolwork.

Overloading creates dysfunction. There are multiple consequences to this program of quantity over quality. Children are under a lot of stress nowadays in schools due to this, and as a consequence they shift into a survival mode.

This survival mode consists of taking shortcuts and getting by with the least amount of effort possible, but even this small amount of effort is too much and applied toward futile ends. Grades become an ends to a means, and the true goal of education is detached from daily work. Studying is only applied toward taking the test, but not for retention thereafter. Escapism takes hold and watching television, taking drugs, engaging in delinquent behavior, and over-socialization result. This further detracts a student from learning what's truly needed. Under such stress, the student body splits into two groups: those who conform and those who fail.

The ones who conform learn the rules of the game, no matter how illogical they are and play the game to the satisfaction of faculty. They become detached from reality, from what truly matters, and are stifled in their potential as they are stripped of their inspiration, creativity, and originality. Quantity over quality matters as part of the survival mode, and there is no profit in overdoing quality when the profits of doing so are decades away in the reaping. Due to this survival mentality, thinking that far into the future is neglected. The ones who conform

become roboticized and are respected for how well they fit the mold. What was once innate curiosity to discover the world is turned into neurotic attempts to escape punishment.

The ones who do not conform fall behind unless they are clever enough to find another source of education that befits them. Their grades are mediocre as they are disillusioned with the system and no longer care about pleasing it. Chances of graduation and pursuing higher education is slim, and most of these either drop out or graduate and immediately acquire low paying jobs. The price of refusal to conform is rejection into substandard wage earning. Either way, those entering public education leave either as robots or peasants, hyperbolically speaking.

Teachers are not to blame either. They are like soldiers in the trenches fighting a war to educate the public, taking orders from their superiors who have no idea what the current conditions are on the front lines. Teachers are overstressed, underpaid, and restricted in their ability to respond to what they perceive in the classroom. Due to political correctness, threat of legal action by parents, and contrite school boards scared of disapproval by a vocal minority with big political clout, teachers are confined to a tight curriculum they are forced to follow.

They are forced to teach some things, and not allowed to teach others, such guidelines set by a panel of nodding puppets with no clue as to what the truth is, let alone initiative to spread it should they know the truth. These puppets are those who design the school curriculum, who despite once being teachers themselves, are for the majority removed from the classroom feedback mechanism. It's the little things that contribute to an oppressive atmosphere in schools. Not withstanding the social atmosphere, teachers on a strained school budget worry about saving paper, staples, or tape. When my high school received thousands of dollars of funding from the community, it used that money to expand its inventory of computers that weren't even needed just to keep up with the politically correct trend for schools to be technologically current. That money should have been used for the little things, such as office supplies. Disruptive students are put in the same class with well behaving ones, creating academic socialism whereby equality is maintained by dragging up the idiots at the expense of the smart ones. Separating students on the wrong criteria leads to incongruities and a breakdown of the system and its components. Putting them into grades by age, when they should be instead separated by level of knowledge and skill, results in academic entropy whereby the smart become dumb and the dumb learn how to waste other's time.

Teachers spend more of this time teaching children how to shut up and sit still than to pay attention and think. Because they are very limited in their methods of discipline, teachers and students suffer as the idiotic and delinquent minority ruins it all for the rest. Friction within the system from misplacement of resources induces hatred among its components, as each is suffering and blaming one another instead of blaming the system itself. In fact, the system is set up such that the components feed off one another in a long term downward spiral. Teachers have contempt for the students, and often make an effort to take out aggression upon them, seeing them as the enemy and cause of their own stress. Students see authority as something to be defied, unless they are already broken by it.

Teachers make up illogical rules to test how well students obey, such as making them walk a certain way through the library, or not enter or leave certain exits at certain times, and other minor things which irritate students and allow faculty to feel good when they exert their powers. This tension between student and teacher shatters trust between them, and any teaching and learning between them enters the domain of negative reinforcement. Instead of

them loving and respecting one another, they hate each other but do what they are supposed to, to avoid consequences if they do otherwise.

When you see a student, what you're really seeing is someone low on ambition and initiative, but starving for recognition and self-esteem. This is a symptom of a system that is anti-life, anti-individualism, and anti-spirit. Compressing a wonderful human into a precise block to fit perfectly into cubicle induces the survival mode of life. Knowledge, having been made into the source of his distress, is put at the bottom of his list of priorities, as he has to do whatever is possible to regain his self esteem, recognition, and peace of mind. However, he must do so within the confines of the system.

Dysfunction results. Instead of individualism meaning thinking for oneself and seeking one's own truth and sense of morality, individualism becomes wearing freaky clothing, having funny hair, and garnering attention via infantile vulgarity no matter if it is for fame or infamy. These superficial methods are all that are still legal within the system. The true human spirit, however, is suppressed.

Those who are broken follow the teacher's illogical rules and learn to trust authority over their own potentials. In this, they become a cog in the wheel. Breaking orders is taboo to them, something they get very nervous about when it happens, and they certainly don't do it willingly. They become neurotics and unstable perfectionists who stand high on shaky foundations.

Once their individuality is broken, they become robots very good at their tasks. Many go on to college, absorb what's fed to them well, and become academicians with a groovy little niche and nice income in their fields of research. But however wonderful that sounds, they are robots and nothing more. Or to make another analogy, they are cows.They don't know that being the best cow still doesn't make you a cowboy.

The straight track.

We hear stories of entrepreneurs who strike it rich after dropping out of college and pursuing their dreams. We hear stories of those who go from rags to riches, of those who defied convention and revolutionized the world. But what do we hear in school? We hear that these people are the exception not the rule. That is certainly true, but what the system is implying is that you are the rule, not the exception, so don't even try to deviate from the straight track.

The straight track is what students are being taught by the system, concerning the course of their lives. The straight track told to high school students goes as follows: You need to do your assignment to get a good grade. When you get good grades, your transcript will be favored by employers and colleges. You might even get scholarships to go to a good college. If you're good in college, you'll get a degree and have good chances of getting a good job. And with a good job you'll have a good wife, good kids, and a good life.

What they're really saying is this: Don't worry about changing the world, just concentrate on getting good grades because that is the only measure of what you're worth in the eyes of those you'll serve. Go to college and find your quiet niche in the world, where you'll be secure in your job because you're so specialized, there's no one else in the world who can take your place. You'll be working to maintain the system as you're seen fit. Focus all your energy into this specialized area and don't worry about making an impact on the world because as long as

you stay specialized and compartmentalized, we'll clothe you, feed you, give you a good family, and bury you in a good plot of land.

Deviating from the track is abhorred by the system. If you show initiative and take risks, you become a statistical outlier, an anomaly in their statistical models, someone who poses a threat to the system because you are a seed with the potential to overturn the mirrors and reveal the truth behind this silent war.

Defy

You cannot be successful, recognized, or a true human being unless you defy the system. If you only do what you're told, you'll be no better than average. The system has been designed by the biggest corporation of all, the state. Public schools either turn out worker drones who serve the state and its partnering greedy corporations, or else they turn out welfare recipients who are an excuse for the state to maintain its colossal parasitic size and an idiotic consumer base to buy these corporations useless toys and poisons.

So many students are under this illusion, the illusion being that they either follow the straight track, try to be the best cow in the herd to maintain financial and social security, or else defy the system and fail miserably, ending up as a bum on the street.

You are seen as a social failure if you defy the system. If you measure your success by what the system deems is successful, then you fear deviating from the straight track because that is a sign of failure. However, you must therefore redesign your standards of success. Would dropping out of a state college make you a failure? In the eyes of other cows, maybe, but pursuing a better education elsewhere be it independently or real world experience would more than make up for it.

How many famous people do you know who did everything they were told and nothing more, who never took risks for fear of defying the status quo? Not very many. Conclusion. The lesson is that not only must you take risks and utilize your innate initiative; you must also get over your fear of defying the system and do so to get ahead of the herd. You are the exception, not the rule, because you have the power to be. Now, the robots in the system are definitely needed. We still need employees, soldiers, and scientists who are specialized in what they do, but presently there is an overabundance among these. Therefore, the emergence of individualists, generalists, and entrepreneurs is encouraged. And the only way for them to increase in numbers is for people like you to break out of the mold and fulfill your destiny as a human, not a machine.

Education, or learning, is not necessarily that routinized curriculum and those classified subjects in textbooks which youths are forced to learn during specified hours while sitting in rows of desks. This type of education now prevailing all over the world is directed against human freedom. State-controlled education, which governments boast of whenever they are able to force it on their youths, is a method of suppressing freedom. It is a compulsory obliteration of a human being's talent, as well as a coercive directing of a human being's choices. It is an act of dictatorship destructive of freedom because it deprives people of their free choice, creativity and brilliance. To force a human being to learn according to a set curriculum is a dictatorial act. To impose certain subjects upon people is also a dictatorial act.

State-controlled and standardized education is, in fact, a forced stultification of the masses. All governments which set courses of education in terms of formal curricula and force people

to learn those courses coerce their citizens. All methods of education prevailing in the world should be destroyed through a universal cultural revolution that frees the human mind from curricula of fanaticism which dictate a process of deliberate distortion of man's tastes, conceptual ability and mentality.

This does not mean that schools are to be closed and that people should turn their backs on education, as it may seem to superficial readers. On the contrary, it means that society should provide all types of education, giving people the chance to choose freely any subjects they wish to learn. This requires a sufficient number of schools for all types of education. Insufficient numbers of schools restrict human freedom of choice, forcing them to learn only the subjects available, while depriving them of the natural right to choose because of the unavailability of other subjects. Societies which ban or monopolize knowledge are reactionary societies which are biased towards ignorance and are hostile to freedom. Societies which prohibit the teaching of religion are reactionary societies, biased towards ignorance and hostile to freedom. Societies which monopolize religious education are reactionary societies, biased towards ignorance and hostile to freedom.

Equally so are the societies which distort the religions, civilizations and behaviour of others in the process of teaching those subjects. Societies which consider materialistic knowledge taboo are likewise reactionary societies, biased towards ignorance and hostile to freedom. Knowledge is a natural right of every human being of which no one has the right to deprive him or her under any pretext, except in a case where a person does something which deprives him or her of that right.

Ignorance will come to an end when everything is presented as it actually is and when knowledge about everything is available to each person in the manner that suits him or her.

Boxing and wrestling are evidence that mankind has not rid itself of all savage behavior. Inevitably it will come to an end when humanity ascends the ladder of civilization. Human sacrifice and pistol duels were familiar practices in previous stages of human evolution. However, those savage practices came to an end years ago. People now laugh at themselves and regret such acts. This will be the fate of boxing and wrestling after tens or hundreds of years. The more the people become civilized and sophisticated, the more they are able to ward off both the performance and the encouragement of these practices.

Schools kill creativity.

It happens to have an interest in education; actually, what I find is everybody has an interest in education. I find this very interesting. I have a big interest in education, and I think we all do. We have a huge vested interest in it, partly because it's education that's meant to take us into this future that we can't grasp. If you think of it, children starting school this year will be retiring in 2077. Nobody has a clue what the world will look like in five years' time. And yet we're meant to be educating them for it. So the unpredictability is extraordinary.

One thing to mention is what extraordinary capacities the children have, their capacities for innovation. All kids have tremendous talents. Education and creativity must go hand in hand. Creativity now is as important in education as literacy, and we should treat it with the same status.

There was once a little girl who was in a drawing lesson. She was six and she was at the back, drawing, and the teacher said this little girl hardly ever paid attention, and in this drawing

lesson she did. The teacher was fascinated and she went over to her and she said, "What are you drawing?" And the girl said, "I'm drawing a picture of God." And the teacher said, "But nobody knows what God looks like." And the girl said, "They will in a minute."

What the childrens have in common is that they will take a chance. If they don't know, they'll have a go. They're not frightened of being wrong. But being wrong is not the same thing as being creative. What we do know is, you'll never come up with anything original, if you're not prepared to be wrong. And by the time they get to be adults, most kids have lost that capacity. They have become frightened of being wrong. And we run our companies like this, by the way. We stigmatize mistakes. And we're now running national education systems where mistakes are the worst thing you can make. And the result is that we are educating people out of their creative capacities. Picasso once said that all children are born artists. The problem is to remain an artist as we grow up. I believe this passionately, that we don't grow into creativity, we grow out of it. Or rather, we get educated out if it. So why is this?

But something strikes you when you travel around the world: every education system on earth has the same hierarchy of subjects. Every one. Doesn't matter where you go (except maybe in Finland which indeed has an original education system). You'd think it would be otherwise, but it isn't. At the top are mathematics and languages, then the humanities, and the bottom are the arts. Everywhere on Earth. And in pretty much every system too, there's a hierarchy within the arts. Art and music are normally given a higher status in schools than drama and dance. There isn't an education system on the planet that teaches dance everyday to children the way we teach them mathematics. Why? Why not? I think this is rather important. I think math is very important, but so is dance. Children dance all the time if they're allowed to, we all do. We all have bodies, don't we? What happens is, as children grow up, we start to educate them progressively from the waist up. And then we focus on their heads, and slightly to one side.

Our education system is predicated on the idea of academic ability. And there's a reason. The whole system was invented, around the world; there were no public systems of education, before the 19th century. They all came into being to meet the needs of industrialism. So the hierarchy is rooted on two ideas. Number one that the most useful subjects for work are at the top. So you were probably steered benignly away from things at school when you were a kid, things you liked, on the grounds that you would never get a job doing that. Don't do music, you're not going to be a musician; don't do art, you won't be an artist. Benign advice -- now, profoundly mistaken. The whole world is engulfed in a revolution. And the second is academic ability, which has really come to dominate our view of intelligence, because the universities designed the system in their image. If you think of it, the whole system of public education around the world is a protracted process of university entrance. And the consequence is that many highly talented, brilliant, creative people think they're not, because the thing they were good at school wasn't valued, or was actually stigmatized. But we can't afford to go on that way.

In the next 30 years, according to UNESCO, more people worldwide will be graduating through education than since the beginning of history. More people and it's the combination of all the things, technology and its transformation effect on work, and demography and the huge explosion in population. Suddenly, degrees aren't worth anything. Isn't that true? Long time ago, if you had a degree, you had a job. If you didn't have a job it's because you didn't want one. But now kids with degrees are often heading home to carry on playing video games, because you need an MA where the previous job required a BA, and now you need a

PhD for the other. It's a process of academic inflation. And it indicates the whole structure of education is shifting beneath our feet. We need to radically rethink our view of intelligence.

We know three things about intelligence. One, it's diverse. We think about the world in all the ways that we experience it. We think visually, we think in sound, we think kinesthetically. We think in abstract terms, we think in movement. Secondly, intelligence is dynamic. If you look at the interactions of a human brain, intelligence is wonderfully interactive. The brain isn't divided into compartments. In fact, creativity -- which can be define as the process of having original ideas that have value -- more often than not comes about through the interaction of different disciplinary ways of seeing things. The brain is intentionally separated in two hemispheres; there's a shaft of nerves that joins the two halves of the brain called the corpus callosum. It's thicker in women; this is probably why women are better at multi-tasking.

And the third thing about intelligence is that it's distinct. It is just fascinated to find out how people discovered their talent. I'm fascinated by how people got to be there. Let's take the example of Gillian Lynne. She's a choreographer; she did "Cats" and "Phantom of the Opera." She's wonderful. When she was at school, she was really hopeless. And the school, in the '30s, wrote to her parents and said, "We think Gillian has a learning disorder." She couldn't concentrate; she was fidgeting. I think now they'd say she had ADHD. She went to see this specialist. So, this oak-paneled room, and she was there with her mother, and she was led and sat on this chair at the end, and she sat on her hands for 20 minutes while this man talked to her mother about all the problems Gillian was having at school. And at the end of it -- because she was disturbing people; her homework was always late; and so on, little kid of eight -- in the end, the doctor went and sat next to Gillian and said, "Gillian, I've listened to all these things that your mother's told me, and I need to speak to her privately." He said, "Wait here. We'll be back; we won't be very long". But as they went out the room, he turned on the radio that was sitting on his desk. And when they got out the room, he said to her mother, "Just stand and watch her." And the minute they left the room, she said, she was on her feet, moving to the music. And they watched for a few minutes and he turned to her mother and said, "Mrs. Lynne, Gillian isn't sick; she's a dancer. Take her to a dance school." So, her mother took her to dance school. "I can't tell you how wonderful it was. We walked in this room and it was full of people like me. People who couldn't sit still. People who had to move to think." *Who had to move to think*. They did ballet; they did tap; they did jazz; they did modern; they did contemporary. She was eventually auditioned for the Royal Ballet School; she became a soloist; she had a wonderful career at the Royal Ballet. She eventually graduated from the Royal Ballet School and founded her own company -- the Gillian Lynne Dance Company -- met Andrew Lloyd Weber. She's been responsible for some of the most successful musical theater productions in history; she's given pleasure to millions; and she's a multi-millionaire. Somebody else might have put her on medication and told her to calm down.

Our only hope for the future is to adopt a new conception of human ecology, one in which we start to reconstitute our conception of the richness of human capacity. Our education system has mined our minds in the way that we strip-mine the earth: for a particular commodity. And for the future, it won't serve us. We have to rethink the fundamental principles on which we're educating our children. There is a wonderful quote by Jonas Salk, who said, "If all the insects were to disappear from the earth, within 50 years all life on Earth would end. If all human beings disappeared from the earth, within 50 years all forms of life would flourish." This is so true.

We must celebrate and empower the gift of the human imagination. We have to be careful now that we use this gift wisely and the only way we'll do it is by seeing our creative capacities. Our task is to educate their whole being, so they can face the future. We may not see this future, but they will. And our job is to help them make something of it.

Education in the slums

We have now this question: Where would you look to see the future of education? The answer that we've traditionally given to that is very straightforward, at least in the last 20 years: You go to Finland. Finland is the best place in the world to see school systems. The Finns may be a bit boring and depressive and there's a very high suicide rate, but by golly, they are qualified. And they have absolutely amazing education systems. So we all troop off to Finland, and we wonder at the social democratic miracle of Finland and its cultural homogeneity and all the rest of it, and then we struggle to imagine how we might bring lessons back.

But actually radical innovation does sometimes come from the very best, but it often comes from places where you have huge need -- unmet, latent demand -- and not enough resources for traditional solutions to work -- traditional, high-cost solutions, which depend on professionals, which is what schools and hospitals are.

Most of the population growth of the next 50 years will be in cities. We'll grow by six cities of 12 million people a year for the next 30 years. Almost all of that growth will be in the developed world. Almost all of that growth will be in places like Monkey Hill, a favelas from Rio. This is where you'll find the fastest growing young populations of the world. So if you want recipes to work -- for virtually anything -- health, education, government politics and education -- you have to go to these places. And if you go to these places, you meet people like Juanderson. At the age of 14, in common with many 14-year-olds in the Brazilian education system, he dropped out of school. It was boring. And Juanderson, instead, went into what provided kind of opportunity and hope in the place that he lived, which was the drugs trade. And by the age of 16, with rapid promotion, he was running the drugs trade in 10 favelas. He was turning over 200,000 dollars a week. He employed 200 people. He was going to be dead by the age of 25. And luckily, he met Rodrigo Baggio, the owner of the first laptop to ever appear in Brazil. 1994, Rodrigo started something called CDI, which took computers donated by corporations, put them into community centers in favelas and created places for people to learn to use computers. What turned Juanderson around was technology for learning that made learning fun and accessible.

We can go to Kibera, which is the largest slum in East Africa. Millions of people living here, stretched over many kilometers. You can meet Azra and Maureen. They finished their Kenyan certificate of secondary education. Kenyan education system borrows almost everything from Britain, circa 1950, but has managed to make it even worse. So there are schools in slums but there are no state schools in slums. Half the children in this classroom have no parents because they've died through AIDS. The other half has one parent because the other parent has died through AIDS. So the challenges of education in this kind of place are not to learn the kings and queens of Kenya or Britain. They are to stay alive, to earn a living, to not become HIV positive. The one technology that spans rich and poor in places like this has nothing to do with industrial technology. It's not to do with electricity or water. It's the mobile phone. If you want to design from scratch virtually any service in Africa, you would start now with the mobile phone.

There is a place called the Madangiri Settlement Colony, which is a very developed slum about 25 minutes outside New Delhi and the remarkable thing about the girls from this place and the sign of the kind of social revolution sweeping through the developing world is that these girls are not married. Ten years ago, they certainly would have been married. Now they're not married, and they want to go on to study further, to have a career. They've been brought up by mothers who are illiterate, who have never ever done homework. All across the developing world there are millions of parents -- tens, hundreds of millions -- who for the first time are with children doing homework and exams.

A computer was installed in the entrance to their slum by a revolutionary social entrepreneur called Sugata Mitra who has conducted the most radical experiments, showing that children, in the right conditions, can learn on their own with the help of computers. Those girls have never touched Google. They know nothing about Wikipedia. Imagine what their lives would be like if you could get that to them.

By looking at about a hundred case studies of different social entrepreneurs working in these very extreme conditions, look at the recipes that they come up with for learning, they look nothing like school. What do they look like? Well, education is a global religion. And education, plus technology, is a great source of hope.

At a school three hours outside of Sao Paulo, most of the children there have parents who are illiterate. Many of them don't have electricity at home. But they find it completely obvious to use computers, websites, make videos, so on and so forth. When you go to places like this what you see is that education in these settings works by pull, not push. Most of our education system is push. I was literally pushed to school. When you get to school, things are pushed at you: knowledge, exams, systems, timetables. If you want to attract people like Juanderson who could, for instance, buy guns, wear jewelry, ride motorbikes and get girls through the drugs trade, and you want to attract him into education, having a compulsory curriculum doesn't really make sense. That isn't really going to attract him. You need to pull him. And so education needs to work by pull, not push.

And so the idea of a curriculum is completely irrelevant in a setting like a slum. You need to start education from things that make a difference to them in their settings. What does that? Well, the key is motivation, and there are two aspects to it. One is to deliver extrinsic motivation that education has a payoff. Our education systems all work on the principle that there is a payoff, but you have to wait quite a long time. That's too long if you're poor. Waiting 10 years for the payoff from education is too long when you need to meet daily needs, when you've got siblings to look after or a business to help with. So you need education to be relevant and help people to make a living there and then, often. And you also need to make it intrinsically interesting.

So time and again, we need to found people like Sebastiao Rocha, in Belo Horizonte, in the third largest city in Brazil. He's invented more than 200 games to teach virtually any subject under the sun. In the schools and communities that Taio works in, the day always starts in a circle and always starts from a question. Imagine an education system that started from questions, not from knowledge to be imparted, or started from a game, not from a lesson, or started from the premise that you have to engage people first before you can possibly teach them. Our education systems, you do all that stuff afterward, if you're lucky, sport, drama, music. These things, they teach through. They attract people to learning because it's really a dance project or a circus project or, the best example of all -- El Sistema in Venezuela -- it's a

music project. And so you attract people through that into learning, not adding that on after all the learning has been done and you've eaten your cognitive greens.

”El Sistema” in Venezuela uses a violin as a technology of learning. Taio Rocha uses making soap as a technology of learning. And what you find when you go to these schemes is that they use people and places in incredibly creative ways. Masses of peer-to-peer learning. How do you get learning to people when there are no teachers, when teachers won't come, when you can't afford them, and even if you do get teachers, what they teach isn't relevant to the communities that they serve? Well, you create your own teachers. You create peer-to-peer learning, or you create para-teachers, or you bring in specialist skills. But you find ways to get learning that's relevant to people through technology, people and places that are different.

There is a school in a bus on a building site in Pune, the fastest growing city in Asia. Pune has 5,000 building sites. It has 30,000 children on those building sites. That's one city. Imagine that urban explosion that's going to take place across the developing world and how many thousands of children will spend their school years on building sites. Well, this is a very simple scheme to get the learning to them through a bus. And they all treat learning, not as some sort of academic, analytical activity, but as that's something that's productive, something you make, something that you can do, perhaps earn a living from.

A child from India, Steven spent three years in Nairobi living on the streets because his parents had died of AIDS. And he was finally brought back into school, not by the offer of GCSEs, but by the offer of learning how to become a carpenter, a practical making skill. So the trendiest schools in the world, High Tech High and others, they espouse a philosophy of learning as productive activity. Here, there isn't really an option. Learning has to be productive in order for it to make sense.

Madhav Chavan, probably the most remarkable social entrepreneur in education in the world, created something called Pratham. And Pratham runs preschool play groups for, now, 21 million children in India. It's the largest NGO in education in the world. And it also supports working-class kids going into Indian schools. He's a complete revolutionary. He's actually a trade union organizer by background, and that's how he learned the skills to build his organization.

When they got to a certain stage, Pratham got big enough to attract some pro bono support from McKinsey. McKinsey came along and looked at his model and said, "You know what you should do with this, Madhav? You should turn it into McDonald's. And what you do when you go to any new site is you kind of roll out a franchise. And it's the same wherever you go. It's reliable and people know exactly where they are. And there will be no mistakes." And Madhav said, "Why do we have to do it that way? Why can't we do it more like the Chinese restaurants?"

There are Chinese restaurants everywhere, but there is no Chinese restaurant chain. Yet, everyone knows what a Chinese restaurant is. They know what to expect, even though it'll be subtly different and the colors will be different and the name will be different. You know a Chinese restaurant when you see it. These people work with the Chinese restaurant model -- same principles, different applications and different settings -- not the McDonald's model. The McDonald's model scales. The Chinese restaurant model spreads.

So mass education started with social entrepreneurship in the 19th century. And that's desperately what we need again on a global scale. And what can we learn from all of that?

Well, we can learn a lot because our education systems are failing desperately in many ways. They fail to reach the people they most need to serve. They often hit their target but miss the point. Improvement is increasingly difficult to organize; our faith in these systems, incredibly fraught. And this is just a very simple way of understanding what kind of innovation, what kind of different design we need.

There are two basic types of innovation. There's sustaining innovation, which will sustain an existing institution or an organization, and disruptive innovation that will break it apart, create some different way of doing it. There are formal settings -- schools, colleges, hospitals -- in which innovation can take place, and informal settings -- communities, families, social networks. Almost all our effort goes in this box, sustaining innovation in formal settings, getting a better version of the essentially Bismarckian school system that developed in the 19th century. But the trouble with this is that, in the developing world there just aren't teachers to make this model work. You'd need millions and millions of teachers in China, India, Nigeria and the rest of developing world to meet need. And in our system, we know that simply doing more of this won't eat into deep educational inequalities, especially in inner cities and former industrial areas.

So that's why we need three more kinds of innovation. We need more reinvention. And all around the world now you see more and more schools reinventing themselves. They're recognizably schools, but they look different. There are Big Picture schools in the U.S. and Australia. There are Kunskapsskolan schools in Sweden. Of 14 of them, only two of them are in schools. Most of them are in other buildings not designed as schools. There is an amazing school in Northen Queensland called Jaringan. And they all have the same kind of features: highly collaborative, very personalized, often pervasive technology, learning that starts from questions and problems and projects, not from knowledge and curriculum. So we certainly need more of that.

But because so many of the issues in education aren't just in school, they're in family and community, what you also need, definitely, is more efforts to supplement schools. The most famous of these is Reggio Emilia in Italy, the family-based learning system to support and encourage people in schools. The most exciting is the Harlem Children's Zone, which over 10 years, led by Geoffrey Canada, has, through a mixture of schooling and family and community projects, attempted to transform not just education in schools, but the entire culture and aspiration of about 10,000 families in Harlem. We need more of that completely new and radical thinking. We need radicalism-thinking of a kind that we haven't imagined.

And finally, you need transformational innovation that could imagine getting learning to people in completely new and different ways. So we are on the verge, 2015, of an amazing achievement, the schoolification of the world. Every child up to the age of 15 who wants a place in school will be able to have one in 2015. It's an amazing thing. But it is, unlike cars, which have developed so rapidly and orderly, actually the school system is recognizably an inheritance from the 19th century, from a Bismarkian model of German schooling that got taken up by English reformers, and often by religious missionaries, taken up in the United States as a force of social cohesion, and then in Japan and South Korea as they developed.

It's recognizably 19th century in its roots. And of course it's a huge achievement. And of course it will bring great things. It will bring skills and learning and reading. But it will also lay waste to imagination. It will lay waste to appetite. It will lay waste to social confidence. It will stratify society as much as it liberates it. And we are bequeathing to the developing world school systems that they will now spend a century trying to reform. That is why we need

really radical thinking, and why radical thinking is now more possible and more needed than ever in how we learn.

“Free to the people.”

We really need to put the best we have to offer within reach of our children. If we don't do that, we're going to get the generation we deserve. They're going to learn from whatever it is they have around them.

And we, as now the elite, parents, librarians, professionals, whatever it is, a bunch of our activities are, in fact, in trying to get the best we have to offer within reach of those around us, or as broadly as we can. On the Boston Public Library, carved above their door is, "Free to All." It's kind of an inspiring statement. We must bring all of the works of knowledge to as many people as want to read it. And the idea of using technology is perfect for this job. We have the opportunity to one-up the Greeks. It's not easy to one-up the Greeks. But with the industriousness of the Egyptians, they were able to build the Library of Alexandria -- the idea of a copy of every book of all the peoples of the world. The problem was you actually had to go to Alexandria to go to it. On the other hand, if you did, then great things happened. I think we can one-up the Greeks and achieve something: universal access to all knowledge is within our grasp. We could actually achieve the great vision of everything ever published, everything that was ever meant for distribution, available to anybody in the world to have access to it.

If we start with books, we can start with the Library of Congress and with its 26 million volumes, the largest print library in the world. A book is about a megabyte, so we will need 26 terabytes of data. 26 terabytes fits in a computer system that costs about 60,000 dollars. So for the cost of a house -- or around here, a garage -- you can put, you can have spinning all of the words in the Library of Congress. That's pretty neat.

Then the question is, what do you get? You know, is it worth trying to get there? Do you actually want it online? Some of the first things that people do is they make book readers that allow you to search inside the books, and that's kind of fun. And you can download these things, and look around them in new and different ways. And you can get at them remotely, if you happen to have a laptop. There's starting to be some of these sort of page turn-y interfaces that look a whole lot like books in certain ways, and you can search them, make little tabs. But I don't know, reading things on a laptop -- whenever I pull up my laptop, it always feels like work. I think that's one of the reasons why the Kindle is so great. I don't have to feel like I'm at work to read a Kindle. It's starting to be a little bit more specified. But I have to say that there's older technologies that I tend to like. I like the physical book. And I think we can go and use our technology to go and digitize things, put them on the Net, and then download, print them and bind them, and end up with books again.

We actually can build a bookmobile. And a bookmobile -- the size of a van with a satellite dish, a printer, binder and cutter, and kids make their own books. It costs about three dollars to download, print and bind a normal, old book. And they actually come out kind of nice looking. You can actually get really good-looking books for on the order of one penny per page, sort of the parts cost for doing this.

So the idea of -- this technology actually may end up putting books back in people's hands again. There are some other bookmobiles running around. In India, they've got another couple bookmobiles running around, as well at the opening day at the new Library of Alexandria, in Egypt. It was quite popularly attended; kids starting to make their own books. So the idea of

being able to use this technology to end up with paper where I can handle sort of sounds a little retro, but I think it still has its place. We can make this technology work in rural Uganda for example, or anywhere in the world.

There are some newer technologies for delivering that are actually quite exciting as well. One is a print-on-demand machine that looks like a Rube Goldberg machine, it's called the "Espresso Book Machine," and in about 10 minutes, you can press a button and make a book.

But one of my favorites in the $100 laptop, it can be use as an e-book reader, you actually can go and read scanned books quite easily. So the idea of electronic books is starting to come about.

Now let's go for audio. So how much is there? Well, as best we can tell, there are about two to three million disks having been published -- so 78s, long-playing records and CDs -- or at least that's the largest archives of published materials we've been able to sort of point at. It costs about 10 dollars a piece to go and take a disk and put it online, if you're doing things in volume. But the rights issues are really quite thorny. This is a fairly heavily litigated area, but there are niches in the music world that aren't served terribly well by the classic commercial publishing system. Let's offer unlimited storage, unlimited bandwidth, forever, for free, to anybody that has something to share that belongs in a library. The rock 'n' rollers had a tradition of sharing, as long as nobody made any money. You could -- concert recordings, it's not the commercial recordings, but concert recordings, started by the Grateful Dead. So audio is possible to put up, but the rights issues are really pretty thorny.

Moving images: if you think of theatrical releases, there are not that many of them. As best we can tell, there are about 150,000 to 200,000 movies ever that are really meant for a large-scale theatrical distribution. It's just not that many.

There's a political and social question out of this. Is all of this, as we go digital, is it going to be public or private? There are some large companies that have seen this vision, that are doing large-scale digitization, but they're locking up the public domain. The question is, is that the world that we really want to live in? What's the role of the public versus the private as things go forward? How do we go and have a world where we both have libraries and publishing in the future, just as we basically benefited as we were growing up?

Universal access to all knowledge, it can be one of the greatest achievements of humankind, like the man on the moon, or the Gutenberg Bible, or the Library of Alexandria. It could be something that we're remembered for, for millennia, for having achieved. Let's not forget what's carved above the door of the Carnegie Library. Carnegie - one of the great capitalists - carved above his legacy… "Free to the People".

The learning revolution

Alongside with the current major climate crisis, there's a second climate crisis, which is as severe, which has the same origins, and that we have to deal with the same urgency: this is a crisis, not just of natural resources, but a crisis of human resources as well.

We make very poor use of our talents. Very many people go through their whole lives having no real sense of what their talents may be, or if they have any to speak of. I meet all kinds of people who don't think they're really good at anything.

We meet all kinds of people who don't enjoy what they do. They simply go through their lives getting on with it. They get no great pleasure from what they do. They endure it rather than enjoy it and wait for the weekend. But we also meet people who love what they do and couldn't imagine doing anything else. If you said to them, "Don't do this anymore," they'd wonder what you were talking about. Because it isn't what they do, it's who they are. They say, "But this is me, you know. It would be foolish for me to abandon this, because it speaks to my most authentic self." And it's not true of enough people. In fact, on the contrary, I think it's still true of a minority of people. I think there are many possible explanations for it. And high among them is education, because education, in a way, dislocates very many people from their natural talents. And human resources are like natural resources; they're often buried deep. You have to go looking for them; they're not just lying around on the surface. You have to create the circumstances where they show themselves. And you might imagine education would be the way that happens, but too often it's not. Every education system in the world is being reformed at the moment and it's not enough. Reform is no use anymore, because that's simply improving a broken model. What we need -- and the word's been used many times during the course of the past few days -- is not evolution, but a revolution in education. This has to be transformed into something else.

One of the real challenges is to innovate fundamentally in education. Innovation is hard because it means doing something that people don't find very easy, for the most part. It means challenging what we take for granted, things that we think are obvious. The great problem for reform or transformation is the tyranny of common sense; things that people think, "Well, it can't be done any other way because that's the way it's done."

There is a great quote from Abraham Lincoln made in December 1862 to the second annual meeting of Congress: "The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion." Not rise to it, rise with it. "As our case is new, so we must think anew and act anew. We must disenthrall ourselves from time-honored ways of doing things, or we will never progress as a society.

There are ideas that all of us are enthralled to, which we simply take for granted as the natural order of things, the way things are. And many of our ideas have been formed, not to meet the circumstances of this century, but to cope with the circumstances of previous centuries. But our minds are still hypnotized by them, and we have to disenthrall ourselves of some of them.

Ask a room full of teenagers to tell you what’s the time. Teenagers do not wear wristwatches, they just choose not to. And the reason is that we were brought up in a pre-digital culture, those over 25. If you want to know the time you have to wear something to tell it. Kids now live in a world which is digitized, and the time, for them, is everywhere. They see no reason to do this. And by the way, you don't need to do it either; it's just that you've always done it and you carry on doing it.

But there are things we're enthralled to in education. Let’s see a couple of examples. One of them is the idea of linearity: that it starts here and you go through a track and if you do everything right, you will end up set for the rest of your life. There is a different story: that life is not linear; it's organic. We create our lives symbiotically as we explore our talents in relation to the circumstances they help to create for us. We have become obsessed with this linear narrative. And probably the pinnacle for education is getting you to college. I think we are obsessed with getting people to college. Certain sorts of college. I don't mean you shouldn't go to college, but not everybody needs to go and not everybody needs to go now. Maybe they go later, not right away.

Human communities depend upon a diversity of talent, not a singular conception of ability. And at the heart of our challenges is to reconstitute our sense of ability and of intelligence. This linearity thing is a problem.

There is a policy statement -- very well-intentioned -- which said, "College begins in kindergarten." But no, it doesn't. Kindergarten begins in kindergarten. But still, there's such competition now to get into kindergarten -- to get to the right kindergarten -- that people are being interviewed for it at three. Kids sitting in front of unimpressed panels, with their resumes, flipping through and saying, "Well, this is it? You've been around for 36 months, and this is it? You've achieved nothing -- commit. Spent the first six months breastfeeding, the way I can see it."

The other big issue is conformity. We have built our education systems on the model of fast food. There are two models of quality assurance in catering. One is fast food, where everything is standardized. The other are things like Zagat and Michelin restaurants, where everything is not standardized, they're customized to local circumstances. And we have sold ourselves into a fast food model of education, and it's impoverishing our spirit and our energies as much as fast food is depleting our physical bodies.

But human talent is tremendously diverse. People have very different aptitudes. But it's not only about that. It's about passion. Often, people are good at things they don't really care for. It's about passion, and what excites our spirit and our energy. And if you're doing the thing that you love to do, that you're good at, time takes a different course entirely. When you're doing something you love, an hour feels like five minutes. If you're doing something that doesn't resonate with your spirit, five minutes feels like an hour. And the reason so many people are opting out of education is because it doesn't feed their spirit, it doesn't feed their energy or their passion.

We have to change metaphors. We have to go from what is essentially an industrial model of education, a manufacturing model, which is based on linearity and conformity and batching people. We have to move to a model that is based more on principles of agriculture. We have to recognize that human flourishing is not a mechanical process; it's an organic process. And you cannot predict the outcome of human development. All you can do, like a farmer, is create the conditions under which they will begin to flourish.

So when we look at reforming education and transforming it, it isn't like cloning a system. There are great ones, like KIPP's; it's a great system. There are many great models. It's about customizing to your circumstances and personalizing education to the people you're actually teaching. The answer to the future it's not about scaling a new solution; it's about creating a movement in education in which people develop their own solutions, but with external support based on a personalized curriculum.

These new technologies, like multimedia and the internet, combined with the extraordinary talents of teachers, provide an opportunity to revolutionize education. It is an urgent matter to get involved in it because it's vital, not just to ourselves, but to the future of our children as we have to change from the industrial model to an agricultural model, where each school can be flourishing tomorrow. That's where children experience life. It can be at home for example, if that's where they choose to be educated with their families or their friends.

Open source learning.

There's a crisis in our schools, around the world. But let's imagine taking all the world's books and just tearing out the pages; liberating these pages and imagine digitizing them and then storing them in a vast, interconnected, global repository. Think of it as a massive iTunes for book type content. And then take that material and imagine making it all open, so that people can modify it, play with it, improve it. Imagine making it free, so that anyone in the world can have access to all of this knowledge, and imagine using information technology so that you can update this content, improve it, play with it, on a timescale that's more on the order of seconds instead of years. Instead of editions coming out every two years, of a book, imagine it coming out every 25 seconds.

Imagine we could do that and imagine we could put people into this. So that we could truly build an ecosystem with not just authors, but all the people who could be or want to be authors in all the different languages of the world, it would be called, a knowledge ecosystem. This is the dream - trying to enable anyone in the world to be their own educational DJ, creating educational materials, sharing them with the world, constantly innovating on them. This is my dream. In fact, this dream is actually being realized at Rice University on a project called "Connexions" where they work on the open-source tools and the content.

A community of engineering professors, from Cambridge to Kyoto, who are developing engineering content in electrical engineering to develop what you can think of as a massive, super textbook that covers the entire area of electrical engineering -- and not only that, it can be customized for use in each of their own individual institutions. People like Kitty Jones - a private music teacher and mom from Champagne, Illinois, who wanted to share her fantastic music content with the world, on how to teach kids how to play music. Her material is now used over 600,000 times per month. What tremendous interest! In fact, a lot of this use coming from Unites States, K-through-12 schools because anyone who's involved in a school scale back, the first thing that's cut is the music curriculum and so this is just indicating the tremendous thirst for this kind of open, free content. A lot of teachers are using this stuff.

And why not building customized courses and building customized books from this free open –source knowledge. Companies like National Instruments, who are embedding very powerful, interactive simulations into the materials, so that we can go way beyond our regular kind of textbook to an experience that all the teaching materials are things you can actually interact with and play around with and actually learn as you do.

The organization "Teachers Without Borders" (TWB) are very interested in mixing this type of materials. They're going to be using Connexions as their platform to develop and deliver teaching materials for teaching teachers how to teach in 84 countries that are around the world. TWB is currently in Iraq training 20,000 teachers supported by USAID and to them, this idea of being able to remix and customize to the local context is extraordinarily important, because just providing free content to people has actually been likened by people in the developing world to a kind of cultural imperialism, that if you don't empower people with the ability to re-contextualize the material, translate it into their own language and take ownership of it, it's not good. Other organizations actually developing a lot of their science and engineering curriculum to spread widely around the world in this system and they're also trying to develop all of their software tools completely open-source. AMD has a project called 50 by '15, which is trying to bring Internet connectivity to 50 percent of the world's population by 2015, providing content to them in a whole range of different languages.

An engineering textbook, about 300 pages long, hardbound will cost 22 dollars to the student. Why does it cost 22 dollars? Because it's published on demand and it's developed from this

repository of open materials. If this book were to be published by a regular publisher, it would cost at least 122 dollars.

What we're seeing is moving this burning or publication process from the regular sort of single-authored book towards community-authored materials that are modular, that are customized to each individual class and published on demand very inexpensively, either pushed out through Amazon, or published directly through an on-demand press.

This is an extraordinarily interesting area because there is tremendous area under this long tail in publishing. We're talking about books on hyper geometric partial differential equations. Books that might sell 100 copies a year, 1,000 copies a year. There is tremendous sustaining revenue under this long tail to sustain open projects like ours, but also to sustain this new emergence of on-demand publishers, like Coop, who produced these two books. There's an impending cut-out-the-middle-man, disintermediation, that's going to be happening in the publishing industry, and it's going to reach a crescendo over the next few years, and that it's for the world's benefit.

By organizing this free open-source scientific information as Lego blocks, will allow us to combine the content together in myriad different ways, and it provides us a framework to share content create highly sophisticated learning machines: books, courses, course packs. It gives us the ability to personalize the learning experience to each individual student, so that every student can have a book or a course that's customized to their learning style, their context, their language and the things that excite them. It lets us reuse the same materials in multiple different ways and surprising new ways. It lets us interconnect ideas indicating how fields relate to each other.

Imagine that every single equation that you click on in one of your new e-texts is something that you're going to be able to explore and experiment with. Imagine your kid's algebra textbook in seventh grade. You can click on every single equation and bring up a little tool to be able to experiment with it, tinker with it, understand it, because we really don't understand until we do. Imagine chemistry textbooks that actually understand the structure of how molecules are formed.

But how about intellectual property, because we can share and rip, mix and burn, but in fact that's all illegal. And we would be accused of pirates for doing that, because this music has been propertized. It's now owned much of it by big industries. We can't let this Napster thing happen here. So, what we have to do is get it right from the very beginning and what we have to do is find an intellectual property framework that makes sharing safe, and makes it easily understandable, and the inspiration here is taken from open-source software, things like Linux and the GPL.

And the ideas, the creative commons licenses (please see www.creativecommons.org). At the bottom of every piece of material in “Connexions” and in lots of other projects, you can find their logo. Clicking on that logo takes you to an absolute no-nonsense, human-readable document, a deed, which tells you exactly what you can do with this content. In fact, you're free to share it, to do all of these things, to copy it, to change it, even to make commercial use of it as long as you attribute the author. Because in academic publishing and much of educational publishing, it's really this idea of sharing knowledge and making impact that's why people write, not necessarily making bucks. Behind that is the legal code, so if you want to very carefully construct it, and creative commons is taking off -- over 43 million things out there, licensed with a creative commons license. Not just text, but music, images, video, and

there's actually a tremendous uptake of the number of people that are actually licensing music to make it free for people who do this whole idea of re-sampling, rip, mixing, burning and sharing.

So, why not build this idea of a commons. People are using it. They get over 500,000 unique visitors per month at MIT open courseware, (another large open-content site). But because anybody can contribute anything this could be a problem. We need to be able to design structures, designing social software to enable anyone to build their own peer review process, called "lenses." And basically what they allow is anyone out there to develop their own peer review process; so that they can focus on the content in the repository that they think is really important.

You can really view this, as a call to action. “Connexions” and open content is all about sharing knowledge. All of you are tremendously imbued with tremendous amounts of knowledge. Let’s bring our own contribution to projects like this because together we can truly change the landscape of education and educational publishing.

One Laptop per Child

When you ask a head of state, "What is your most precious natural resource?" They will not say children at first, and then when you say, "children," they will pretty quickly agree with you. Everybody agrees that whatever the solutions are to the big problems, they include education, sometimes can be just education, and can never be without some element of education.

Everybody learned how to walk, how to talk, not by being taught how to talk, or taught how to walk, but by interacting with the world, by having certain results as a consequence of being able to ask for something, or being able to stand up and reach it. Whereas at about the age six, we were told to stop learning that way, and that all learning from then on would happen through teaching, or a book, or something. But it was really through teaching. And one of the things in general that computers have provided to learning is that it now includes a kind of learning which is a little bit more like walking and talking, in the sense that a lot of it's driven by the learner himself or herself.

In Cambodia, in a village that has no electricity, no water, no television, no telephone, but has broadband Internet now. To these kids, their first English word was "Google," and they only know Skype. They've never heard of telephony, they just use Skype. And they go home at night; they've got a broadband connection in a hut that doesn't have electricity. The parents love it, because when they open up the laptops, it's the brightest light source in the house. And talk about where metaphors and reality mix -- this is the actual school.

When Seymour Papert got the governor of Maine to legislate one laptop per child in the year 2002; 80 percent of the teachers were actually against it. And they really preferred that the money would be used for higher salaries, more schools, whatever. A few years later, guess what? They're reporting five things: drop of truancy to almost zero; attending parent-teacher meetings -- which nobody did and now almost everybody does -- drop in discipline problems; increase in student participation -- teachers are now saying it's kind of fun to teach; kids are engaged -- they have laptops! -- and then the fifth, is that the servers have to be turned off at certain times at night because the teachers are just getting too much email from the kids asking them for help.

So when you see that kind of thing, this is not something that you have to test. The days of pilot projects are over, when people say, "Well, we'd like to do three or four thousand in our country to see how it works." Screw you. Go to the back of the line and someone else will do it, and then when you figure out that this works, you can join as well.

So, One Laptop Per Child was formed as a nonprofit association; it raised about 20 million dollars to do the engineering, and then have it produced afterwards at the lowest possible price; with a small display, doesn't have to have perfect color uniformity; it can even have a pixel or two missing; it doesn't have to be that bright. Remember - this it's not a laptop project, it's an education project. And more important it’s a start toward a new type of education.

When the kids open up their laptops, they all become a network, and then just need one or two points of backhaul. You can serve a couple of thousand kids with two megabits. So you really can bring into a village, and then the villages can connect themselves, and you really can do it quite well.

Are we dreaming? Is this real? It actually is real. It's not a matter of whether it's going to happen. It is going to happen. We are already moving to an open-source, user generated content type of education.

A class with 100,000 students.

Everyone is both a learner and a teacher. In creating a better way to educate the students, two professors from Stanford University USA, Peter Norvig and Sebastian Thurn, created an online class that would be equal or better in quality to normal Stanford class, and managed to bring it to anyone in the world for free.

From announcement, in about two weeks, 50,000 people had signed up for it. And that grew to 160,000 students from 209 countries. They were thrilled to have that kind of audience. They also found out that one-on-one tutoring works best, so that's what they tried to emulate, even though they knew it would be one-on-thousands first.

A student said, "This class felt like sitting in a bar with a really smart friend who's explaining something you haven't grasped, but are about to." And that's exactly what they were aiming for.

Also, from Khan Academy, they saw that short 10-minute videos worked much better than trying to record an hour-long lecture and put it on the small-format screen. They decided to go even shorter and more interactive. A typical video is two minutes, sometimes shorter, never more than six, and then they pause for a quiz question, to make it feel like one-on-one tutoring.

Students learn best when they're actively practicing. They wanted to engage them, to have them grapple with ambiguity and guide them to synthesize the key ideas themselves and to avoid questions like, "Here's a formula, now tell me the value of Y when X is equal to two." They preferred open-ended questions.

One student wrote, "Now I'm seeing Bayes networks and examples of game theory everywhere I look." I like that kind of response. They didn't want students to memorize the formulas; they wanted to change the way the students looked at the world. And they succeeded.

It's a little bit ironic that they set about to disrupt traditional education, and in doing so, ended up making online class much more like a traditional college class than other online classes. In most online classes, the videos are always available. You can watch them any time you want. But if you can do it any time, that means you can do it tomorrow, and if you can do it tomorrow, well, you may not ever get around to it. So they brought back the innovation of having due dates. You could watch the videos any time you wanted during the week, but at the end of the week, you had to get the homework done. This motivated the students to keep going, and it also meant that everybody was working on the same thing at the same time, so if you went into a discussion forum, you could get an answer from a peer within minutes. Students start watch the videos on their own, and then they come together to discuss them. It's like a form of peer-to-peer instruction.

A class is not primarily about information. More important is motivation and determination. It is crucial that the students understand the system and they're all supporting each other. The class ran 10 weeks, and in the end, about half of the 160,000 students watched at least one video each week, and over 20,000 finished all the homework, putting in 50 to 100 hours. They got this statement of accomplishment.

So what have we learned? Well, they tried some old ideas and some new and put them together, but there are more ideas to try. Stanford Coursera, Udacity, MITx and others have more classes coming. It's a really exciting time. But gathering thousands of interactions per student per class, billions of interactions altogether, and start analyzing that, we realize that a real revolution will come. And all of us will be able to see the results from a new generation of amazing students.

Changing the education paradigm.

Every country on earth at the moment is reforming public education. There are two reasons for it. The first of them is economic. People are trying to work out, how do we educate our children to take their place in the economies of the 21st century. How do we do that? Even though we can't anticipate what the economy will look like at the end of next week, as the recent turmoil has demonstrated. How do you do that?

The second though is cultural. Every country on earth is trying to figure out how do we educate our children so they have a sense of cultural identity, so that we can pass on the cultural genes of our communities. While being part of the process globalization, how do you square that circle? The problem is they are trying to meet the future by doing what they did in the past. And on the way they are alienating millions of kids who don't see any purpose in going to school. When we went to school we were kept there with the story, which is if you worked hard and did well and got a college degree you'd have a job. Our kids don't believe that, and they are right not to.

You are better having a degree than not, but it's not a guarantee anymore. And particularly not if the route to it marginalizes most of the things that you think are important about yourself. Some people say we have to raise standards if this is a breakthrough. You know... really. Yes, we should. Why would you lower them? You know...I haven't come across an argument that persuades me they've lowered them. But raising them, of course we should raise them.

The problem is that the current system of education was designed and conceived and structured for a different age. It was conceived in the intellectual culture of the Enlightenment, and in the economic circumstances of the Industrial Revolution. Before the

middle of the nineteenth century there were no systems of public education. Not really, you'd get educated by Jesuits if you had the money.

But public education paid for from taxation, compulsory to everybody and free at the point of delivery, that was a revolutionary idea. And many people objected to it. They said it's not possible for many street kids working class children to benefit from public education. They are incapable of learning to read and write and why are we spending time on this?

So there was also built into the whole series of assumptions about social structuring capacity. It was driven by an economic imperative of the time, but running right through it, was an intellectual model of the mind, which was essentially the Enlightenment view of intelligence. The real intelligence consisted in this capacity for certain type of deductive reasoning, and a knowledge of the Classics originally, what we've come to think of as academic ability. And this is deep in the gene pool of public education.

There are really two types of people. Academic and non academic. Smart people and non smart people. And the consequence of that is that many brilliant people think they are not, because they've been judged against this particular view of the mind. So we have twin pillars, economic and intellectual. This model has caused chaos in many people's lives. And it's been great for some - there've been people who benefited wonderfully from it, but most people have not. This is the modern epidemic, and it's as misplaced as it is fictitious. This is the plague of ADHD.

Our children are living in the most intensely stimulating period in the history of the earth. They are being besieged with information and parse their attention from every platform, computers, from iPhones, from advertising holdings from hundreds of television channels. And we are penalizing them for getting distracted. From what? Boring stuff.

The Arts especially address the idea of Aesthetic experience. An aesthetic experience is one in which your senses are operating at their peak. When you're present in the current moment. When you are resonating with the excitement of this thing that you're experiencing. When you are fully alive. And anaesthetic is when you shut your senses off, and deaden yourself what's happening. We're getting our children through education by anaesthetising them when in fact we should be doing the exact opposite. We shouldn't be putting them asleep; we should be waking them up, to what they have inside of themselves.

But the model we have is this. We have a system of education which is modeled on the interest of industrialism and in the image of it. Schools are still pretty much organized on factory lines. On ringing bells, separate facilities, specialized into separate subjects. We still educate children by batches. You know, we put them through the system by age group. Why do we do that? You know, why is there this assumption that the most important thing kids have in common is how old they are. You know, it's like the most important thing about them is their date of manufacture.

There are kids who are much better than other kids at the same age in different disciplines, or at different times of the day, or better in smaller groups than in large groups or sometimes they want to be on their own.

If you are interested in the model of learning you don't start from this production line mentality. This is essentially about conformity. Increasingly it's about that as you look at the

growth of standardized testing and standardized curricula; and it's about standardization. We've got in the exact opposite direction. This is all about changing the education paradigm.

There is a great study done recently on divergent thinking. Divergent thinking isn't the same thing as creativity, as creativity is the process of having original ideas which have value. Divergent thinking isn't a synonym, but it's an essential capacity for creativity. It's the ability to see lots of possible answers to a question. Lots of possible ways of interpreting a question. To think not just in linear or convergent ways. To see multiple answers and not one.

There is a test to find multiple answers to one question. For example: How many uses can you think of for a paper clip? Most people might come with 10 or 15. People who are good at this might come with 200. And they do that by saying. Well, could the paper clip be 200 foot tall and be made of foam rubber? They gave this test to 1500 people in a book called “Breakpoint and Beyond”. And on the protocol of the test if you scored above a certain level, you'd be considered to be a genius of divergent thinking. So my question to you is: what percentage of the people tested of the 1500 scored genius level for divergent thinking? The kindergarten children.... So what do you think? What percentage of genius level 98%. They retested the same children five years later, ages of 8-10. What do you think? -50%. They retested them again 5 years later, ages 13-15%. You can see a trend here coming. This shows 2 things: One is we all have this capacity and Two: It mostly deteriorates.

A lot have happened to these kids as they grown up, a lot. But one of the most important things happened - they've become educated. They spend 10 years in school being told there is one answer, it's at the back, and don't look. And don't copy because that's cheating. I mean outside school that's called collaboration but, inside schools.

This isn't because teachers wanted this way it's just because it happens that way. It's because it's in the gene pool of education. We have to think different about human capacity. We have to get over this old conception of academic, non academic. Abstract, theoretical, vocational and see it for what it is: a Myth.

Second, we have to recognize most great learning happens in groups. That collaboration is the stuff of growth. If we atomize people and separate them a judge them separately, we form a kind of disjunction between them and their natural learning environment. And thirdly, it's crucially about the culture of our institutions: the habits of institutions and the habitats that they occupy.

On-Line, On-Demand Education.

Personalized education is one of the biggest opportunities that on-line and on-demand education can bring to us. It will provide us with the potential of solving a 30-year-old problem. Educational researcher Benjamin Bloom, in 1984, posed what's called the 2 sigma problem, which he observed by studying three populations of students. The first population studied in a lecture-based classroom. The second population of students studied using a standard lecture-based classroom, but with a mastery-based approach, so the students couldn't move on to the next topic before demonstrating mastery of the previous one. And finally, there was a population of students that were taught in a one-on-one instruction using a tutor. The mastery-based population was a full standard deviation, or sigma, in achievement scores better than the standard lecture-based class, and the individual tutoring gives you 2 sigma improvement in performance.

In a lecture-based class, half the students are above medium level grades and half are below. In the individual tutoring instruction, 98 percent of the students are going to be above medium grades. Imagine if we could teach so that 98 percent of our students would be above average. Hence, the 2 sigma problem.

We cannot afford, as a society, to provide every student with an individual human tutor, but we can afford to provide each student with a computer or a smartphone. So the problem is, how can we use technology to push the education on a totally new paradigm in which 98% of the students are graduating. Mastery is easy to achieve using a computer, because a computer doesn't get tired of showing you the same video five times. And it doesn't even get tired of grading the same work multiple times. And even personalization is something that we're starting to see the beginnings of, whether it's via the personalized trajectory through the curriculum or some of the personalized feedback.

With this in perspective, are today's universities obsolete? Well, Mark Twain certainly thought so. He said that, "College is a place where a professor's lecture notes go straight to the students' lecture notes, without passing through the brains of either." Also, Plutarch said that, "The mind is not a vessel that needs filling, but wood that needs igniting." Meaning that maybe we should spend less time at universities filling our students' minds with content by lecturing at them, and more time igniting their creativity, their imagination and their problem-solving skills by actually talking with them.

Today with the help of advanced online education we can do just that by doing active learning in the classroom. If we could offer a top quality education to everyone around the world for free, what would that do? Three things, first it would establish education as a fundamental human right, where anyone around the world with the ability and the motivation could get the skills that they need to make a better life for themselves, their families and their communities. Second, it would enable lifelong learning. It's a shame that for so many people, learning stops when we finish high school or when we finish college. By having this amazing content be available, we would be able to learn something new every time we wanted, whether it's just to expand our minds or it's to change our lives. And finally, this would enable a wave of innovation, because amazing talent can be found anywhere. Maybe the next Albert Einstein or the next Steve Jobs is living somewhere in a remote village in Africa. And if we could offer that person an education, they would be able to come up with the next big idea and make the world a better place for all of us.

This type of thinking can be applied into many other components of society like politics and economics with profound implications that will far exceeds our expectations.

Chapter 11: Culture in decline

What Democracy?

As you stumble around what we call global society, you can't help but feel an increasing sense of unease, perhaps even frustration, with respect to how we, the human family has chosen to organize ourselves on this little planet.

The late astronomer and well-known advocate of scientific thought Carl Sagan in his famed PBS series 'Cosmos' once invited the question: If we were visited by a superior species from another part of the galaxy and we were forced to explain to them our stewardship of our planet, not to mention the state of human affairs today, would we be proud of what we described? How would we frame our explanation of how almost half of the world, over 3 billion people, are either barely surviving in abject poverty and sickness or are simply dying off unnecessarily at a rate of about one person every couple of seconds, all occurring in the wake of an advanced technological reality where we could easily feed, clothe and house every family on Earth in a respectable standard of living? How would we frame the global warfare: 230 million killed by their fellow man in the past 100 years alone? Based on what: meaningless territoriality, resources, dogmatic obsolete ideologies? Again, this all occurring in the shadows of a looming scientific recognition that we are indeed simply one family sharing one household bound by the exact same laws of nature, hence the same unifying operational ideology. How about our economic system, the bedrock of what defines our society not to mention our dominant motivations? How would we explain the reality that rather than organizing ourselves efficiently as a single system to properly manage this household we share, we childishly divide, compete and exploit each other through an archaic, completely environmentally decoupled game. A game, by the way, which not only appears to perpetuate a vast spectrum of social atrocities, but now seems to be further destabilizing society, decreasing our public health. The only thing that appears to stand the test of time is this very notion of change: the ever-evolving understanding of ourselves and the world we inhabit. Perhaps, some might think that that's actually the definition of human intelligence.

Still the dominant empire, the United States political system has spent roughly 25 billion dollars in the past decade alone. An amount of money, if averaged and distributed annually, could house and feed every homeless person in America effectively ending the epidemic. Let’s analyze the entire idea of global democracy in the tradition as it exists and how it is blindly accepted by the vast majority of people on this planet as if being the only option to satisfy their interest and create good wellbeing and hence societal management in its optimum state.

Doesn’t it seem a little absurd to claim a participatory democracy when the public itself actually has zero say when it comes to the actual decisions made by those elected. It's bad enough that those voted in have literally no legal responsibility to do anything they might have claimed on the campaign trail. But if you examine history, you will find the historical fact that the public good has always been secondary to other interests: mainly, financial and business interests.

Why did the US government, completely against all known public interest, allow the private baking system, a system which actually creates nothing, to be bailed out to the tune of 13 trillion dollars, while the public was left out to dry with overflowing private debt, job losses and a stagnating economy. If we're going to persist with this silly little game we've concocted

called the growth economy where the movement of money defines everything, it might be a good idea to do the math regarding what might actually help this economic system operate at some passible level.

If that money spent on the bank bailout was spent on, say... relieving private household debt instead while letting Goldman Sachs, GP Morgan and all of the other technically meaningless, non-producing financial institutions experience the failure and bankruptcy they deserved simultaneously nationalizing the entire US banking system as a whole, The US economy might have had a chance. Why? Because banks don't actually contribute anything. People with jobs do. If you want growth in this type of system, you need jobs. If you want jobs you need demand, which requires people to have free money to spend. So by helping the public debt burden, you will plant the true seeds of economic growth. As obvious as that may seem, many forget one thing: the bailout had nothing to do with the US economy, nor does it or will it work to help any hurting sovereign economy in the world. Why? Because we live in a plutocracy, not a democracy, and the only true power is actually behind the curtain, not in front. The financial and business powers not only own and control USA but they own and control the whole planet. And no, it's not a conspiracy; it's a value-system disorder. As long as a dollar sign is associated with every blade of grass, every plot of land, every fleeting thought or invention, not to mention judging the merit of individuals for their right to life through labor, we should expect nothing less. Since the inception of the state itself, coupled with the underlying power of money as the ultimate driver of human decisions and hence persuasion, the true power has always been financial, and those little people you elect into office every couple of years they have owners too, and don't you forget it.

All of this considered, let's now think a little more accurately about this whole democracy deal. Since the tradition of our democracy has to do with representatives elected apparently to do our thinking for us, a critical question becomes: where did these people come from? Why are they the ones on your TV and not others? Did you decide that these people that these people are the best choices to compete for such critical leadership, or have you noticed that the most pronounced candidates especially the presidential, sort of come out of nowhere, and, through the media, are given credence merely by repetition of exposure? The term democracy comes from the Greek 'demos' which means people and 'krates' which means rule. The people of a given society express their opinions through votes and policy is created by the majority's interest.

It appears the process was formalized in ancient Greece and has been adapting ever since. However, it didn't take long for a bit of cynicism to emerge with respect to the process itself, given the fact that the entire basis of the idea assumes that the voting public actually is educated enough to know what they're doing. Franklin D. Roosevelt once acutely stated: “Democracy cannot succeed unless those who express their choice are prepared to choose wisely. The real safeguard of democracy, therefore, is education."

Winston Churchill on the other hand, was a little less forgiving, stating: "The best argument against democracy is a five-minute conversation with the average voter." And of course the infamous Mark Twain jumped to the inevitable punch line, stating: "If voting made any difference they wouldn't let us do it."

I would like you to ask yourself If we were in the ruling class The investment ownership class. To paraphrase Thorstein Veblen and we wanted to preserve our interests against any interference. What would we do? Well, first we need to take the broadest possible view, we can. We need to make sure that the voting public is as uninformed as possible regarding

relevant issues that might contradict our establishments practices; coupled with that we also need to eliminate as much independent logical causal scientific thought as possible. So, let's support an extremely under-funded, outdated and deprived public educational system. A system focused on merely giving a person a job one day and not teaches them how to critically and logically think.

The heart of democracy is the assumption that the public is well educated about critical thought, they know how to think about things and evaluate, and therefore they can make proper decisions.

However, to further reinforce this, we also need to push and reward belief systems that support passive obedience; belief systems and values that are stubborn, irrational, and promote closed thinking. Religion becomes super helpful in this circumstance. Religion is being politicized, and that candidates are using it as a tool. If people are groomed to be obedient and follow blindly, they are ripe to extend that obedience to others who claim authority.

It's critical we recognize a unique, sociological characteristic of the human condition. Something we will call 'herd psychology'. This is the tendency for us humans, when faced with mass appeal, to often behave in extremely thoughtless and malleable ways. In the words of Charles McKay, famed author of "Extraordinary Popular Delusions and the Madness of Crowds" "Men, it has been said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly and one by one." However, this doesn't just apply to, say, a soccer riot. Such mob persuasion can be generated trough simply shared cultural events. Remember September 11th? Talk about mass insanity! This event created an immediate crowd madness with fear and revenge, and it didn't take long for the US government, and other governments, in fact, to harness that madness, and funnel support for draconian legislation and illegal invasions. However, this herd psychological tendency is not only very useful for implanting and guiding perceived issues of importance, it is also critical in setting rigid limits of debate, creating the tendency for those who begin to question beyond those limits, to be ostracized and rejected by the herd itself. You know, if someone talks about a more equitable distribution of income in society: all the growth that has occurred in our country, over the last decade or more, has gone to the upper 1, 2%. "You're communists!" If someone speculates about the obvious power manipulation and corruption, "God damn it! I am so sick of these conspiracy theorists and their lies! The Federal Reserve does not collude for its own self interest!"

And heaven forbid we get those do-gooders who want to actually apply modern scientific knowledge and improve society with it. "Yeah right! Feed, clothe and house everybody on Earth with technology? Utopian jackasses!" Remember, probably the greatest way to control human thought, is to establish a deep fear of social rejection, and associate that fear to culturally taboo subjects. So, with that ground work in motion, we now have to deal with the pesky problem that the public just might wise up enough, and work to maneuver a person into political power, that will cause us problems. Therefore, some more specific structural safeguards are in order. Basically, we need to make sure that those unwanted candidates, are unable to get anywhere near the major outlets for public digestion; and if they do, the practice is to treat them like freaks. How do we do that? With money, and our corporate constituency has plenty. We just need to make sure the use of this money for political influence goes uninhibited.

In a US supreme court 1976 decision, the freedom for a candidate to use unlimited personal money for their campaign was deemed legal, equating spending money with the right of free speech, in fact. What this translates to, in effect, is the removal of any regulated fairness of expression, and hence, whoever has the most money has the most resources, and hence effect. Lets also make sure that our corporations, are given the legal right to promote our little puppets without limit. Luckily, in 2010, our pals again at the US supreme court, confirmed that the government may not restrict political spending by any corporation in candidate elections, as they are, once again, protected by the 1st Amendment. So now we can buy mad ad space to promote whoever we want, as much as we want, drowning the opposition in the media. With those broad measures in place, it is still important to control the basic unfolding of the electoral process, from start to finish. The best way to do this is to create a false duality: the illusion of competition between parties. We need a 2-party system that, constantly argues with each other in general, but still upholds the basic elitist policies that we need to maintain our advantage. The beauty of this dominant 2-party farce is that it not only gives the public the needed illusion of choice, it more importantly, oppresses those upstart third parties.

As we know, these annoying self righteous third parties have been trouble makers from day one. The civil rights amendments, women's suffrage, broad worker rights, child labor laws and other agitations for industry, all came from these rising third parties, historically, not from the dominant, established group, us. So we need to be vigilant here. We need to get the public so used to this 2-party dictatorship that they don't even mind if the two parties are given direct control over most of the electoral process itself. They need to have the power of organizing the rules of electoral redistricting, the primaries, the caucuses, and debates, and of course, we, the ruling class, will moderate their actions through lobbying, campaign contributions, you know, exactly the free market promises: the freedom to manipulate everything.

Those pesky third parties, along with controversial ideas, can only come into play if the demo-publicans decide they can. However, nothing is perfect, and you can't be too careful. Sometimes, good old fashioned, time-tested tactics are needed. Nothing is as old-fashioned, as good old direct electoral fraud. Let's get some of our corporate buddies to build some voting machines, with really terrible integrity, and get them in as many critical spots as we can.

So, let's recap. Free thinking people tend to recognize the need for ongoing adaptation and change, so we need to make sure education supports the existing tradition, through mere rote learning, not critical, logical thought. Next, we establish clear limits of debate in the culture, and make sure those who go beyond the pale, are shutdown by endless ridicule and debasement. Then we need to harness the herd psychology, and guide it through our media, to either identify with the issues we need in the forefront, or distract them outright. As far as large scale influence, we need to have the freedom to do whatever we want, and to use our vast corporate wealth to influence both public opinion and the candidates themselves. Our legal status as a corporate person now ensures our free speech, and hence free spending. Next, we create the public illusion of competition and choice, and gain as much control over the election process as possible. Our demo-publican pawns, with our endless sponsorship and lobbying, now handles this well, including the restriction of public debate, and the denial of all interfering third parties. If that wasn't enough, screw it! We'll just reorder the ballot counts ourselves, with the black box voting hacks in the most influential electoral states. And so it goes! Since the beginning of civilization, those in power have successfully restricted the interests of the majority, by regulating their values, by controlling resources through money, not to mention controlling the very processes that exist to challenge them.

Is it a conspiracy? Do such powerful men meet in dark rooms, and work to figure out how to keep their power? Actually, not as much as you might think. You see, the hilarious thing about all of this, is that such a process of manipulation is actually self-generating, justified in a step by step manner, with basic self-interest guiding the whole way. You see, the real corruption is not occurring in back-room meetings, or at the docks; the real power resides in how you, the public, actually perpetuate, condone and support the very underlying systems that oppress you. Final thoughts: many watching this program's content, will likely interpret the broad farce known as American democracy, or really the farce of global democracy, in fact, as a system in need of better regulation. The ACLU, Democracy Now!, Michael Moore, Occupy Wall Street, Annie Leonard, and other intelligent and outspoken activist institutions and figures, seeking what they call 'change', all actually operate within the same presupposition: "If only if we could better regulate monetary and corporate power, we can fix the world." No. I'm sorry to say that until the social premise itself, and hence the fundamental psychological drivers of our economy-imbalance, scarcity, narrow self-interest, exploitation and competition; until those are altered to the extent that the system begins to reward and reinforce collaboration, human and ecological balance, efficiency and sustainability, nothing is going to really change. In a sociological condition, where everything is based on advantage over others, what we call corruption today isn't actually corruption at all; it's just business as usual. Seriously, what did you people expect? In an economy where everything is for sale by the very ethic inherent, underscored by the false notion that we can't possibly work together intelligently to benefit all, no level of supposed corruption should surprise any of us. In short, to assume we're going to perpetuate this economic philosophy here, and then contradict it over here with the idea that certain elements of society should be off-limits for monetary manipulation and gain, is completely naive and absurd.

Between Real and Unreal

When you look at the natural world, don't you think: how beautiful it is… All the bounties of nature, vision, sound and symmetry, laid before us like an immeasurable feast for the senses…

So much of our world is beautiful too – art, architecture, technology, toys, food – these all delight the mind, the soul and the senses. But above this beauty – threatening to eclipse and extinguish it – is a growing darkness that we cannot contain. War, debt, imprisonment, violence, abuse, corruption – these all stain our world, often increasing, seemingly without end.

Our world, the world of the West, of freedom and philosophy, trade and democracy, is hanging by a thread. Europe burns. Riots escalate. Birthrates plummet. The youth rot, or flee. Currencies dissolve. Economies collapse. Unemployment swells. Prisons expand. Families crack and break apart. The debts of the dead strangle the unborn.

Come on - we all want to fix what is broken, but you must have noticed that every solution we try just seems to make things worse. We tried to solve the problem of poverty, and created a permanent underclass. We wanted less economic inequality, we now have more. We created institutions to achieve economic stability, but still suffer through endless booms and busts. We tried to get rid of drugs, and drug use expanded. We wanted to give kids a good education, and ended up with record dropout rates, illiteracy and the forced drugging of children. We tried to make healthcare affordable and available to everyone, but just drove the price of medicine higher and higher. We tried to help people save for their old age, only to hand them empty IOU's that enslave their children.

What keeps going so terribly wrong? Well – when every problem we try to solve gets worse, everything we think we know must be re-examined.

BEYOND UTOPIA

With the advent of future developments in science and technology, we will assign more and more decision making to machines. At present this is evident in military systems in which electronic sensors maintain the ideal flight characteristics in advanced aircraft. The capacities of computers today exceed five hundred trillion bits of information per second. The complexity of today's civilization is far too complex for human systems to manage without the assistance of electronic computers. Computers of today are relatively primitive compared to those that will evolve in the future. Eventually the management of social systems will call for require electronic sensors interconnected with all phases of the social sequences thus eliminating the need for politics.

Today modern industrial plants have built in automatic inventory systems, which order materials such as bearings and other mechanical replacements well in advance.

We believe it is now possible to achieve a society where people would be able to live longer, healthier and more meaningful productive lives. In such a society, the measure of success would be based upon the fulfillment of one's individual pursuits rather than the acquisition of wealth, property, and power. Although many of the concepts presented here may appear as unattainable goals, all of the ideas are based upon known scientific principles. It is not my purpose to write an article that would be acceptable to people this is not the concern of science.

The social direction being proposed here has no parallel in history with any other previous political ideology or economic strategy. Establishing the parameters of this new civilization will require transcending many of the traditions, values, and methods of the past. The future will evolve its own new paradigms, appropriate to each successive phase of human and technological development.

Throughout the history of civilization few national leaders or politicians have ever proposed a comprehensive plan to improve the lives of all people under their jurisdiction. Although such individuals as Plato, Edward Bellamy, H.G. Wells, Karl Marx, and Howard Scott all made some attempts to present a new civilization, the established social order considered them impractical dreamers with Utopian designs that ran contrary to the innate elements of human nature. Arrayed against these social pioneers was a formidable status quo composed of vested interests that were comfortable with the way things were, and a populace at large that, out of years of indoctrination and conditioning, wanted no radical changes. These were the millions of unappointed guardians of the status quo. The outlook and philosophy of the leaders were consistent with their positions of differential advantage.

In 1898, Edward Bellamy wrote the book "Looking Backward". He conceived of an ideal egalitarian social system with many advanced ideas for its time. This bestseller generated a great deal of interest, and many people inquired as to how this type of cooperative Utopian society could be brought about. But Bellamy replied that he was just a writer and did not know how to create such a society.

The proposals he presented, and those of Plato's Republic, the writings of Karl Marx, H. G. Wells in his book "The Shape of Things to Come", and many others all represent attempts to

find workable solutions to the many problems that earlier civilizations were unable to resolve. There is little doubt that at the time of Bellamy's books the social conditions were abominable, which made the Utopian ideal extremely appealing. What appears to be lacking in most of these concepts, however, has been an overall plan and the necessary methods for a transitional system to enable the idea to become a reality. Most of the early visions of a better world did not allow for changes in either technology or human values, tending to arrest innovative efforts. Additionally, all have lacked a comprehensive set of blueprints, models, and a methodology for implementation. Finally, they lacked competent individuals to bring about such a transition.

The answers do not lie in debate or philosophical discussion of values, but rather in methodology. Thus what is needed is an operational definition of a better world, which is as follows: To constantly maximize existing and future technologies with the sole purpose of enhancing all human life and protecting the environment.

Today we have developed the necessary technology to surpass the fondest hopes and dreams of any social innovators of the past. The fact that previous attempts at social change have failed is no justification for us to stop trying. The real danger lies in complacence. The only limitations to the future of humankind are those that we impose upon ourselves. It is now possible to relieve humanity of many of its unresolved problems through the humane application of technology.

Many years ago an attempt was made in the U. S. to understand a social and economic system different from our own. A film called "The March of Time" had this to say about Soviet Communism: "We believe that the American free-enterprise system will function better than the collective system. However, we wish you the best of luck on your new and unusual social experiment." The failure of communism to provide for human needs and to enrich the lives of its citizens is not unlike our own failures. Both failure and success are inherent in the on-going experiment that is social evolution. In all established social systems it is necessary to devise different approaches to improve the workings of the system.

Science is replete with examples of experiments that have failed, as well as those that have been successful. In the development of the airplane, for example, there were thousands of failures before the first workable model was produced. In the field of medicine, Dr. Erlich attempted over 600 different approaches to controlling syphilis before one was finally proven successful. All of the technology we use today, such as computers, cellular phones, the Internet, aircraft, and automobiles, are in a constant state of improvement and modification. Yet our social system and values remain largely static.

An inscription on one of the government buildings go as follows: "Where there is no vision, the people perish." Attaining visions requires change. The major reason for resisting change is that it tends to threaten the established interests.

Actually, the fear of social change is somewhat unfounded when we consider that the entire history of civilization has been, in a sense, an experiment. Even the American free-enterprise system, during its earliest stages, faced a multitude of problems much more severe than they are today. These included long work hours, exploitation of child labor, inadequate ventilation in industrial plants, lack of rights for women and minorities, hazardous conditions in mines, and racial prejudice. Despite its many problems, it was the greatest social experiment in history in terms of diversity of lifestyles and individual freedoms, innovations in architecture and technology, and overall progress in general. It is imperative that we continue the process

of social experimentation in order to transcend our present limitations and enhance the lives of everyone.

The future does not depend on our present-day beliefs or social customs, but will continue to evolve a set of values unique to its own time. There are no "Utopias." The very notion of "Utopia" is static. However, the survival of any social system ultimately depends upon its ability to allow for appropriate change to improve society as a whole. The paths that we choose will ultimately determine whether or not there is intelligent life on earth.

NEW FRONTIERS OF SOCIAL CHANGE

It has often been observed that common crises create common bonds. While people seek advantage during the times of prosperity, shared suffering tends to draw people closer together. We have seen this behavior repeated time and time again throughout the centuries, during times of flood, famine, fire, or other natural disasters. Once the threat is resolved, however, scarcity patterns once again begin to steer people back to their behaviors of seeking individual advantage.

Sensationalist motion pictures such as “Independence Day” depict a world united for the purpose of repelling an invasion by a hostile alien culture. Indeed, it seems that the only force that would mobilize the world in a unified direction would be one that poses a common threat, such as a colossal meteor hurling towards the earth, or some other major catastrophic event. If such an event were to occur, all border disputes would become irrelevant in the face of impending disaster. While many would call upon divine intervention for salvation, all nations would surely combine their efforts and call upon science and technology to deal with this common threat. Bankers, lawyers, businessmen, and politicians would all be bypassed. Every resource would be harnessed and mobilized, without any concern for monetary cost or profit. Under this kind of threatening condition, most people realize where the key to their survival lies. For example, during the Second World War, it was the collective mobilization of both human and material resources that lead to a successful resolution for the U.S. and its allies.

As the amount of scientific information grows, nations and people are coming to realize that even in today's divided world there are, in fact, many common threats that transcend national boundaries. These include overpopulation, energy shortages, pollution, water shortages, economic catastrophe, the spread of uncontrollable disease and so forth. However, faced even with threats of this magnitude, which are common to all nations, the direction of human action will not be altered so long as powerful nations are able to maintain control of the limited resources available.

Although many people, publications, and multi-media presentations portray various aspects of the future and paint spectacular pictures of the developments to come in such areas as transportation, housing, and medicine, they ignore the fact that in a monetary-based economy the full benefits of these developments continue to be available to a relative few. What is not touched upon is how these new technologies of the future can be used to organize societies and economies efficiently and equitably, without the necessity of uniformity, so that everyone would benefit from them. The few think tanks devoted to brainstorming newer approaches to bring social organization up to speed with today’s technological capabilities do not deal with social change as a global systems plan.

Neither are there any overall social plans in government or industry to totally eliminate the negative effects of the displacement of people by machines, nor does there seem to be any

genuine concern to do so. Many people believe that in the event of any social breakdown the government will bring about the necessary changes for their survival. This is highly improbable. In the event of such a breakdown the existing government would most likely declare a state of emergency in an attempt to prevent total chaos. It would then institute measures that may address immediate problems, at the same time attempting to preserve existing institutions and power structures, even though these may be a chief contributing factor to the problems.

Many people throughout history have taken politicians to task for actions that have not been entirely in society's best interest. The reasons for this become clearer when one realizes that even in modern democracies, these leaders do not benefit the lives of the average person. Rather, they maintain the preferential positions of much of the established order.

There are growing indications of awareness on the part of people in many areas of the world that events have gone beyond the control of their political leaders. Everywhere we see political figures and parties come and go, political strategies adopted and discarded for their inability to satisfy the demands of one faction or another.

The reason that we do not suggest writing your congressman, or any number of governmental agencies, is that they lack the necessary knowledge to deal with our problems. Their focus is to preserve existing systems, not to change them. It appears that there are few within present-day societies who want to phase themselves out. In modern industrial societies the cause of inaction lies within the cumbersome political process itself, an anachronism in an era when most decisions can be made on any important issue in a split second by the objective entry of relevant data into computers.

The prime conditions that would really effect social change will come about when conditions have deteriorated to such an extent that governments, politicians, and social institutions no longer have the support and confidence of the people. What once worked is acknowledged to be no longer relevant. If the public were better informed, only then would it be possible to introduce a new and improved social arrangement.

Unfortunately, today the majority of people respond to simplistic answers, which tend to repeat the cycle of events. When faced with intolerable social conditions, many of the older patterns will emerge again as people attempt to find someone or something to blame for the conditions, e.g. minorities, immigrants, negligence in adhering to religious principles or family values, and the influences of some inexplicable supernatural forces.

True social change is not brought about by men and women of reason and good will on a personal level. The notion that one can sit and talk to individuals and alter their values is highly improbable. If the person one is talking to does not have the fundamental knowledge of the operation of scientific principles and the processes of natural laws, it is difficult for them to understand how the pieces fit together on a holistic level.

The solutions to our problems will not come about through the application of reason or logic. Unfortunately, at present we do not live in a reasonable or logical world. There appears to be no historical record of any established society's leader who deliberately and comprehensively redesigned a culture to fit the changing times. While there is no question that political leaders, to a limited extent, modify some modes of behavior, the real factors responsible for social change are brought about by bio-social pressures, which are inherent in all social systems.

Change is brought about by natural or economic occurrences that adversely affect the immediate circumstances of large numbers of people.

Some bio-social pressures responsible for social change are limited resources, war, overpopulation, epidemics, natural disasters, economic recession, downsizing on a mass scale, technological displacement of people by machines, and the failure of elected officials to overcome such problems. The introduction of the medium of money to the exchange process brought about a significant change in society, as did the introduction of mechanized agriculture and the Industrial Revolution.

Unfortunately, the world's outmoded social, political, and international order is no longer appropriate to these times. These obsolete social institutions are unable to grasp the significance of innovative technology to achieve the greatest good for all people, and to overcome the inequities forced upon so many. Competition and scarcity have caused an atmosphere of jealousy and mistrust to develop between individuals and nations. The concepts of proprietary rights, intellectual property, copyrights, and patents manifested in corporate entities and in the sovereignty of nations, preclude the free exchange of information that is necessary to meet global challenges. The European Union represents an attempt to bridge the present with the future, but it falls far short in that it relies on the crutch of the monetary system.

We cannot regress to traditional values, which no longer apply. Any attempt to retreat to the methods of the past would condemn untold millions to a life of needless misery, toil, and suffering.

However, it is not enough to point out the limiting factors that may threaten the survivability of all nations. The challenge that all cultures will encounter in this technological age - some more than others - is that of providing a smoother transition, which would introduce a more appropriate way of thinking about ourselves, the environment and the management of human affairs.

The ultimate survival of the human species depends upon planning on a global scale and to cooperatively seek out new alternatives with a relative orientation for improved social arrangements. If humankind is to achieve mutual prosperity, universal access to resources is essential.

Along with the introduction of new paradigms towards human and environmental concern, there must be a methodology for making this a reality. If these ends are to be achieved, the monetary system must eventually be surpassed by a world resource-based economy. In order to effectively and economically utilize resources, the necessary cybernated and computerized technology could eventually be applied to ensure a higher standard of living for everyone. With the intelligent and humane application of science and technology, the nations of the world could guide and shape the future for the preservation of the environment and humankind.

What is needed to attain a global society is a practical and internationally acceptable comprehensive blueprint. Also needed is an international planning council capable of translating the blueprint and the advantages that would be gained through world unification. This proposal could be presented in the vernacular, in a way that non-technical people can easily understand.

In actuality, no one should make decisions as to how this blueprint will be designed. It must be based on the carrying capacity of our planet, its resources, human needs and the like. In order to sustain our civilization we must coordinate advanced technology and available resources in a total, humane, global systems approach.

There is no doubt that many of the professions that are familiar to us today will eventually be phased out. With the rate of change now taking place, a vast array of obsolete occupations will disappear more rapidly and more extensively than at any other time in history. In a society that applies a systems approach, these professions will be replaced by interdisciplinary teams – the systems analysts, computer programmers, operation researchers, and those who link the world together in vast communications networks that are assisted by high-speed digital computers. They will eventually lead us to large-scale computer-based methods of social operation. Social operations are far too complex today for any elected politicians to handle.

It appears that most politicians do not give serious attention to this and other problems. Only in times of war or national emergencies do we call upon and assemble interdisciplinary teams to help find workable solutions to varying social problems. If we apply the same efforts of scientific mobilization as we do during a war, large-scale beneficial effects can be achieved in a relatively short time. This could readily be accomplished by utilizing many of our universities, training facilities, and staff to best determine possible alternative methods to solving these problems. This could eventually help us to define the possible transitional parameters for the future of a sustainable global civilization.

The process of social change must allow for changing conditions that would continuously update the design parameters and allow for the infusion of new technologies into emerging cultures. Design teams utilizing socially integrated computers could automatically be informed of new developments. As this process is continuously updated, it would generate a more appropriate code of conduct. By appropriate conduct we mean the necessary procedures to accomplish a given task.

All the limitations imposed upon us by our present-day monetary system could be surpassed by adopting a global consensus for a worldwide resource-based economy, in which all the planetary resources are viewed and treated as the common heritage of all the earth's inhabitants. In this manner, the earth and our technological procedures could provide us with a limitless supply of material goods and services without the creation of debt or taxation whatsoever.

MONETARY SYSTEM

Although skillful advertisers lead us to believe otherwise, in today’s monetary-based economies, whenever new technology is introduced, the human consequences are of little concern to those introducing the technology - except, of course, as customers. In a monetary-based system, the major concerns of industry are profit, maintaining a competitive edge, and watching the bottom line, rather than the wellbeing of humanity. The social problems that arise from mass unemployment of people, who are rendered obsolete by the infusion of automation, are considered irrelevant, if they are considered at all.

Any need that may be met is secondary to acquiring a profit for the business. If the profit is insufficient, the service will be withdrawn. What industry seeks to do is improve the competitive edge to increase the profit margin for their shareholders. It does not serve the

interest of a monetary based society to engage in the production of goods and services to enhance the lives of people as a goal. With rising public concern regarding the greenhouse effect, acid rain, polluted air and water, etc. some companies are also beginning to realize that for sustained market presence it is in their best interest to heed social and environmental concerns. While such trends are commendable, they are insufficient as a method of solving the overall problems of waste, environmental degradation and unnecessary human suffering.

The monetary system has been a useful, but interim tool; it came into being as a means of placing a value on scarce objects and labor. The monetary system of course replaced the barter system, which involved direct trading of objects and labor. However, just as there was no universal-bartering standard in the past, there is no global monetary system today. Individuals and groups, now as in the past, however, still need to exchange objects and labor for today's goods and services. The unequal distribution of skills, resources and materials throughout the world necessitates global trade.

Until the last few decades, the monetary system functioned to a degree. The global population of three billion was not over consuming world resources and energy, global warming was not evident, and air and water pollution were only recognized by a relative few. The start of the 21st century however finds global population at an exponentially rising seven billion, with resources and energy supplies dwindling, global warming a reality and pollution evident worldwide. Planet earth is in crises and the majority of world population cannot meet their basic needs because people do not have the means to purchase increasingly expensive resources. Money is now the determinant of people's standard of living rather than the availability of resources.

The monetary system is now an impediment to survival rather than a means of facilitating individual existence and growth. This imaginary tool has outlived its usefulness. The limitations on earth's population now caused by the monetary construct can be phased out. It is not money that people need but the access to goods and services. Since humanity requires resources to exist, the replacement system should provide those resources directly to people without the impediment of financial and political interest for their private gain at the expense of the lives and livelihood of the populous. The replacement system is therefor logically a resource-based economy. This global resource based economy would be gradually phased in while the monetary system is phased out.

All of the world's economic systems - socialism, communism, fascism, and even the vaunted free enterprise capitalist system - perpetuate social stratification, elitism, nationalism and racism, primarily based on economic disparity. As long as a social system uses money or barter, people and nations will seek to maintain positions of differential advantage. If they cannot do so by means of commerce they will resort to military intervention.

War represents the supreme failure of nations to resolve their differences. From a strictly pragmatic standpoint it is the most inefficient waste of lives and resources ever conceived by any creature on the planet. This crude and violent way of attempting to resolve international differences has taken on even more ominous overtones with the advent of elaborate computerized thermonuclear delivery systems, deadly diseases and gases, and the threat of sabotage of a nation's computer networks. Despite the desire of nations to achieve peace, they usually lack the knowledge of how to arrive at peaceful solutions.

War is not the only form of violence in the developed and underdeveloped countries that is superimposed upon the populace by inadequate social arrangements. There is also hunger,

poverty, and scarcity. As long as there is the use of money, the creation of debt, and economic insecurity these conditions will perpetuate crime, lawlessness, and resentment. Paper proclamations and treaties do not alter conditions of scarcity and insecurity. And nationalism only tends to help propagate the separation of nations and the world's people.

Even the signing of a peace treaty cannot avoid another war if the underlying causes are not addressed. The unworkable aspects of international law tend to freeze things as they are. All of the nations that have conquered land all over the world by force and violence would still retain their positions of territorial and resource advantage. Whether we realize it or not, such agreements only serve as temporary suspensions to conflict.

Attempting to find solutions to the monumental problems within our present society will only serve as temporary patchwork, prolonging an obsolete system.

In this world of constant change it is no longer a question of whether we choose to make the necessary changes; it is now mandatory that we take on this challenge and adopt these new requirements or face the inevitable decay of our present social and economic institution.

This is the dilemma we must face head-on, and the solutions we arrive at must fit the circumstances of the "real-world." There appears to be no other way than to update our outlook and create a newer direction by relegating the old values to past civilizations. Unfortunately, this may not be accomplished prior to the point of no return in the global economy.

Chapter 12: Anything is possible, even the impossible!

"The American way of life is not negotiable."

Immediately after 9/11 Bush Jr. threatened the world with the words: "The American way of life is not negotiable" and "Who are not with us are against us. There's no in-between". What an arrogant view of the world; what a pathetic country USA has become by dividing the world into two false sides.

The real "inconvenient truth" is that America is severely and irreversibly overextended. By either account, the biocapacity that would be required to enable the entire world's population to consume resources and to generate waste on the same level as America's population is equivalent to six earths! Yet Americans remain steadfast in their refusal to acknowledge the overextended condition, its unsustainable nature, and its inevitable result -- a contraction, most probably apocalyptic, characterized by catastrophic living standard degradation and population level reduction.

What is the Problem? As more Americans come to realize that there is something terribly wrong with the American status quo, they tend to project rather than accept the blame. They attempt to blame "the government" or "big business" for the unfortunate but inevitable consequences associated with the relentless pursuit of the American Dream.

This convenient but erroneous line of reasoning creates the mistaken impression that they, the American public, are the innocent victims of dysfunctional policies and initiatives perpetrated on them by external forces beyond their control -- it's "them", not "us". Unfortunately, this misguided perspective serves only to obscure the real cause associated with their current dilemma, and to totally undermine effective solutions.

Governments and corporations are not responsible for the fact that Americans have adopted an unsustainable lifestyle paradigm, an American way of life, as their means to pursue the illusory American Dream. Politicians and business executives are merely elected representatives – the Americans elect politicians with their votes and business executives with their dollars. And their representatives are doing exactly what they were elected to do; attempting to maintain at any cost the American way of life -- a distorted "reality" within which they can continue to live beyond normal means and perpetuate an inflated lifestyles. And, they will do whatever they can on Americans behalf, as any of them will do individually, to achieve this goal.

Americans are not the innocent victims of deranged politicians and corporate executives and their arbitrarily imposed policies and initiatives; they are the beneficiaries of their ecological and economic indiscretions on Americans behalf. The Americans chose these people to represent them precisely because they will continue to commit such indiscretions on their behalf.

What we have here is a symbiotic relationship between a self-absorbed, self-entitled American public and their political and economic representatives, to whom they have ascribed the privileged status of "leaders". The Americans have willingly abdicated total responsibility for their very existence at the societal level to their leaders, in exchange for "perpetual entitlement" to the American way of life at the individual level.

The Solution is "Unacceptable". If they are to avert catastrophic disaster, Americans must fundamentally alter their existing orientation and dysfunctional behavior -- from thoughtlessly exploiting natural and economic resources, to judiciously consuming these resources in a manner that will ensure long-term survival. They must all reject the American way of life, living unsustainably beyond any means -- ecologically and economically, individually and societally -- for a lifestyle in which we choose to live sustainably within the normal means. That is, a drastically reduce in consumption level and modify the consumption mix, through a combination of population and material living standard reduction -- to an aggregate consumption level and mix that are consistent with US biocapacity. At that point, the future generations will be able to subsist indefinitely on renewable, domestically-available, natural and economic resources.

But this is NOT going to happen. "The American way of life is not negotiable." (President George H. W. Bush, Earth Summit, Rio de Janeiro, 1992). This is a statement that is unthinkingly endorsed -- implicitly, if not explicitly -- by nearly all Americans.

All Americans claim to be willing to "do their share" -- as long as it doesn't negatively impact the material standard of living -- their inflated American lifestyles -- their American way of life. But it must -- significantly.

The Consequences Are Inescapable. As long as they adhere blindly to their American way of life and choose to live unsustainably beyond normal means, it is not possible to take meaningful action to terminate their dysfunctional behavior—to cease the ecological and economic indiscretions that have caused them to become irreversibly overextended.

Barring an almost inconceivable series of serendipitous events -- unforeseen technological breakthroughs, major efficiency improvements, miraculous discoveries, and just plain luck – eventually they will reach an ecological or economic limit that will trigger a debilitating contraction in the not-too-distant future.

The dollar collapse

The dollar collapse will be the single largest event in human history. This will be the first event that will touch every single living person in the world. All human activity is controlled by money. Our wealth, our work, our food, our government, even our relationships are affected by money. No money in human history has had as much reach in both breadth and depth as the dollar. It is the de facto world currency. All other currency collapses will pale in comparison to this big one. All other currency crises have been regional and there were other currencies for people to grasp on to. This collapse will be global and it will bring down not only the dollar but all other fiat currencies, as they are fundamentally no different. The collapse of currencies will lead to the collapse of ALL paper assets. The repercussions to this will have incredible results worldwide.

Thanks to the globalization and the giant vampire squids of the Anglo-American Empire, the dollar is the world's reserve currency. It supports the global economy in settling foreign trade, most importantly the Petro-Dollar trade. This money is recycled through the City of London (not to be confused with London) and New York. This fuels the global corporate vampires that acquires and harvests the wealth of the world. The corporate powers suppress REAL assets like natural resources and labor to provide themselves massive profits. This Fascist, Statist, Collectivist model provides the money into the economy to fund an ever increasing federal government. That government then grows larger and larger enriching its minions with

jobs to control their fellow citizens. Finally, to come full circle, the government then controls other nations through the Military Industrial Complex.

This cycle will be cut when the mathematically and inevitable collapse of the dollar occurs. In order for the US debt based money to function they MUST increase the debt every year in excess of the debt AND interest accrued the year before or we will enter a deflationary death spiral. When debt is created, money is created. When debt is paid off, money is destroyed. There is never enough to pay off the debt, because there would be not one dollar in existence.

They are at a point where they either default on the debt, willingly or unwillingly, or create more money/debt to keep the cycle moving. The problem is if you understand anything about compounding interest, we are reaching the hockey stick moment where the more debt that is incurred, the less effective it is and this leads us to hyper inflation. There are only two actors needed for this hyper inflation, the Lender of Last Resort, the Fed, and the Spender of Last Resort, the government. These two can, and will, blow up the system. They will wait until the next crisis and the whiff of deflationary depression before they fire up the printing presses. That crisis is coming very soon at the end of this summer or fall. The money and emergency measures are worn out by the fact that NONE of the underlying problems that caused the 2008 crisis have been resolved. The only thing that has happened is that instead of corporate problems, we now have nation problems. In this movie Greece will play the role of Lehman Brothers and the United States will play the role of AIG. The problem is there is nowhere to kick the can down the road and there is no world government to absorb the debt, yet… So, what we have here is a "Problem, Reaction, Solution" type of strategy.

There are 5 Places Not To Be When the Dollar Collapses.

1. Israel - This Anglo-American beach head into the Middle East was first conceived by the most powerful family in the world, the Rothschilds, in 1917. The Balfour Declaration said that there will be a Zionist Israel years before World War two and the eventual establishment of Israel. Israel has not been a good neighbor to its Muslim nations and has always had the two biggest bullies on the block at it's back. When the dollar collapses, the United States will have much to much on its plate both domestically and internationally to worry about such a non-strategic piece of land. This will leave Israel very weak at a time when tensions will be high. This very thin strip of desert land will not be able to with stand the economic reality of importing its food and fuel or the political reality of being surrounded by Muslims.

2. Southern California - The land of Fruits and Nuts turns into Battlefield Los Angeles. 20 million people packed into an area that has no water and thus food is not good to say the least. Throw on top of the huge wealth disparities and the proximity to a narco state and this does not bode well. We have seen riots for Rodney King, what will happen when the dollar is destroyed and food a fuel stop coming into this area. People will get desperate and do crazy things, especially when a huge proportion of its citizens are on anti depressants. If food and fuel cannot get in, what about Zolfot? At a time when people's world is falling apart they lack the ability to deal with this new paradigm. If people come off of these drugs too fast they suffer psychotic breaks and you will have thousands of shootings or suicides.

3. England - The Land of the Big Brother and former Empire of world wide slave and drug trade will suffer heavily. The stiff upper lip that their the British Elite ingrained into their sheeple will not work anymore as the British population explodes. The human character will sacrifice and unite for a foreign enemy, but not if the enemy has always been the Elite. The Anglo-American Empire may pull off another false flag to distract its population on another

Emmanuel Goldstein like in 1984, but I feel this collapse will happen before they pull it off. This will make all eyes point at the British Elite as solely responsible for this catastrophe. We have seen massive riots for soccer matches with hooligans. What will happen when this island with very little food and fuel gets cut off?

4. New York City - Another large urban area living too high on the dollar hog. NYC is the area I moved out of in 2008. There is little doubt that all of the wealth in New York, New Jersey and Connecticut is derivative off of Wall Street wealth. The savings and investments of the whole nation and much of the world flows through this financial capital. As the world wakes up to the massive financial fraud, this will lead to the destruction of capital like we have never seen before. This will have tremendous effects on the regional economy as people driving in Mercedes suddenly wonder where their next meal is coming from.

5. Washington D.C. - The political collapse of the Federal Government will wreak havoc on the hugely inflated local economy. As more and more states find it necessary to assert their natural control, the Federal Government will suddenly loose power and importance as the whole world suffers from a Global Hurricane Katrina. The money that they create and spend, will become worthless and the government minions pensions will evaporate. Millions that once relied on the ability to force others to send their money to them will learn that the real power has always been at the most local level. Massive decentralization will be the answer to globalization gone mad. Local families and communities will forgo sending money and power out of their community, as they will care about their next meal and keeping warm.

“You can ignore reality, but you can’t ignore the consequences of ignoring reality.” -Ayn Rand

To sum up, those areas that have lived highest on the hog in the dollar paradigm will most likely be the worst places to live when the dollar collapses. Many of you will not pay attention to this words, but rest assured this dollar collapse is coming. It is a mathematical inevitability. We will not be as fortunate to muddle through this collapse like we did in 2008 when it was a corporate problem. This time around, it is a national and global problem. The global Ponzi scheme has run out of gas as the demographics decline, as cheap abundant oil declines, as hegemonic power declines. This comes at a time when we reach the exponential or collapse phase of our money. The Irresistible Force Paradox says, “”What happens when an unstoppable force meets an immovable object?” We are about to find out, when infinite money hits a very finite world.

What the Dollar's Collapse Will Mean To the World

Many economists have forecasted the possibility of the dollar declining against the Euro for sometime; most do not comprehend the significance of this. Some believe that the decline of the dollar against the currencies of American's trading partners will help correct the USA's trade deficit, and the dollar will stop falling when the trade imbalance is corrected. However, the evidence is that the opposite is happening - the $US has declined 40% against the Euro over the last 2 years, and during this time America's trade deficit has continues to deteriorate.

There is now nothing the USA can do to prevent the collapse of its currency, and its economy. It has no reserves to support its value, and has the most indebted country in the world, is dependant of the credit from America's former enemies. But, both Russia and China have said they will be switching their considerable dollar reserves into Euro. This will only hasten the lack of confidence in the dollar, creating a global lack of confidence in the currency, and

setting into free-fall. It will soon bring about the total collapse of the dollar, and the American economy.

The collapse of the dollar will throw the world into a global depression. Those nations with large external debts will not be able to trade sufficiently to earn the income to service their debts, and will slide into bankruptcy. The economies of New Zealand, Australia, Canada and the UK will also totally collapse, as a result of their indebtedness and not being able to service their borrowings. It will result in the Anglo-Saxon nations facing abject poverty, our people facing starvation, and a total break-down in society. Crime will become rampant. Law and order will cease to exist. Disease will become widespread.

The Asian economies, which have depended upon American trade, will also be severely affected. However, they will recover after a period, but only after considerable political and economic turmoil.

The EU will be in a much better position to survive the coming economic chaos. An influx of capital into the Euro zone by those selling dollars will provide the funding for rebuilding the economies of the new United States of Europe. However, the collapse of the $US will still severely affect the already depressed German and French economies. The resulting economic turmoil will create the need for the acceptance of a strong EU leader, who will be able to make the necessary political and economic reforms to enable Europe revive their economies. Those nations that accept the new EU Constitution will come under the control of this new leader, creating Europe as the world's new Super Power.

The Euro will become the world's only reserve currency, creating the means for the new United States of Europe to become the dominant economic power in the world. The new Europe will be able to dictate the terms on how the global economy should be run. They will take over the administration of America and Britain, placing the Anglo-Saxon people in bondage for repayment of their debts.

Americans do not appear to comprehend the bitterness that has grown around the world as a result of their illegal invasion of Iraq. While once Europeans looked up to, and admired America; today it is held in utter contempt for its arrogance and warmongering. Anti-European comments in the American media have only added to this hostility towards the US. America's attempt to impose its version of government on the world, its hypocrisy in claiming to be the moral leader of the world, while flooding the media with degenerate filth and garbage, has bought upon it disgust and contempt that few Americans can comprehend.

The dollar collapse will be the single largest event in human history

Every major civilization in history has collapsed. In almost all recorded cases the collapse has occurred as a result of infinite expansion in a finite environment. We are, no doubt, approaching a similar fate.

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only the dollar but all other fiat currencies, as they are fundamentally no different. The collapse of currencies will lead to the collapse of ALL paper assets. The repercussions to this will have incredible results worldwide.

This time around, it is a national and global problem. The global Ponzi scheme has run out of gas as the demographics decline, as cheap abundant oil declines, as hegemonic power declines. This comes at a time when we reach the exponential or collapse phase of our money. The Irresistible Force Paradox says, "What happens when an unstoppable force meets an immovable object?" We are about to find out, when infinite money hits a very finite world.

What is to come is a mathematical certainty. It cannot be otherwise. The only question is one of timing.

Perhaps the final breaking point will come in a few months and the system will crumble before the end of the year. Or, maybe we experience a slow and drawn out depression over the course of a decade. Whatever the case, we're not going to pretend like we know exactly how and when it will come to pass.

What we can surmise, however, are the effects if and when the unstoppable force hits an immovable object. Keep in mind that what we are talking about the largest financial, economic and governmental debt bubble in the history of the world – and it's about to pop.

When this happens we can expect nothing short of unmitigated global pandemonium – on a scale never before seen. Take nothing for granted and expect the unexpected. Food shortages, violence, governmental tyranny, and especially wide-scale regional or global military conflict. This is the reality of collapse.

What Is a Dollar Collapse?

A dollar collapse is when the value of the dollar falls so fast that all those who hold dollars panic, and sell them at any cost. In this scenario, sellers would include: foreign governments who hold U.S. Treasuries, traders in exchange rate futures who trade the dollar versus other currencies, and individual investors who demand assets denominated in anything other than dollars. The collapse of the dollar means that everyone is trying to sell their dollar-denominated assets, and no one wants to buy them, driving the value of the dollar down to near zero.

What Would Cause the Dollar to Collapse?

Several conditions must be in place before the dollar could collapse. First, there must be an underlying weakness. Second, there must be a viable currency alternative for everyone to stampede into. Third, a triggering event would need to occur.

The first condition does exist. The dollar declined 54.7% against the euro between 2002 and 2012. Why? The U.S. debt nearly tripled during that time period, from $5.9 trillion to $15 trillion. This increases the chance the U.S. will let the dollar's value slide, allowing it to repay the debt with cheaper money.

Is There a Viable Alternative to the Dollar?

The dollar became the world's reserve currency when President Nixon abandoned the gold standard in the 1970s. The dollar is used for 43% of all cross-border transactions. The dollar's

value is strong as measured by central bank reserves -- 61% of these foreign currency reserves are in dollars. The next most popular currency? The euro, which comprises less than 30% of reserves. The eurozone debt crisis has only weakened the euro as a viable alternative to the dollar as a global currency. But this was deliberately done to extend the dollar life with maybe two years.

China and others have argued for a new global currency. However, replacing the dollar would be a massive undertaking, would require great global resolve and not happen quickly.

What Event Could Trigger a Dollar Collapse?

Altogether, foreign countries own $5 trillion in U.S. debt (as of December 2011). If China, Japan or other major holders started dumping these holdings of Treasury notes on the secondary market, this could cause a panic leading to collapse. China owns more than $1 trillion in U.S. Treasuries. That's because China pegs its currency, the yuan, to the dollar. This keeps the prices of its exports to the U.S. relatively cheap. Japan owns more than $800 billion in Treasuries, also keeping its currency, the yen, low to stimulate exports to the U.S. Japan is trying to move out of a 15 year deflationary cycle, and the 2011 earthquake and nuclear disaster hasn't helped.

China and Japan Can, But Won't, Trigger a Dollar Collapse. Would China and Japan ever really do this? Only if they saw their holdings declining in value too fast AND they had another market to sell their products to. The economies of Japan and China are dependent on U.S. consumers. They know that if they sell their dollars, their products will cost more in the U.S., and their economies will suffer. Right now, it's still in their best interest to hold onto their dollar reserves. China and Japan are selling more to other Asian countries, who are gradually becoming wealthier. However, the U.S. is still the best market in the world.

If the Dollar Collapses, What Would Happen?

A sudden dollar collapse would create global economic turmoil as investors rush to other currencies, such as the euro, or other assets, such as gold or other commodities. Demand for Treasuries would plummet, driving up interest rates. Import prices would skyrocket, causing inflation.

U.S. exports would be dirt cheap, boosting the economy briefly. Unfortunately, uncertainty, inflation and high interest rates would strangle possible business growth. Unemployment would worsen, sending the U.S. back into recession or even creating a depression.

How Can I Protect Myself from a Dollar Collapse?

Protect yourself from a dollar collapse by first defending yourself from a gradual dollar decline. Keep your assets well-diversified by holding foreign mutual funds, gold, silver and other commodities. A dollar collapse would create global economic turmoil. To respond to this kind of uncertainty, you must be mobile. Keep your assets liquid, so you can shift them as needed. Make sure your job skills are transferable. Update your passport, in case things get so bad for so long that you need to move quickly to another country.

Is a Dollar Collapse Imminent?

Because the US and their financial power centers destabilized the European Union in the last year or two, they prologue the final collapse of the dollar for a little amount of time, so it’s

unlikely that the dollar will collapse in the immediate period. That's also because any of the countries who have the power to make that happen (China, Japan and other foreign dollar-holders) don't want it to occur as for the moment it's not in their best interest.

What must be changed?

Analyzing the human being anybody understands that the man is capable of infinite evil and infinite good. In creating a new type of society we must first know and understand in detail the human being, both with positive and the negative aspects. It is not a coincidence that at the top of our social-politic hierarchy today are psychopaths and sociopaths. But psychopaths are only a small percentage from the total population; so, one of the obvious solution will be to increase the number of people who take decision.

The changes must address our politics, our economics and to our social aspects. The key element onto which a new society can be built is technology, more precisely, on-line technology. By implementing a large scale decision-making online technology we will increase the number of those who can take decisions.

Politics is about money. Because of that we have now a system of laws totally un-transparent which allow for the ones in power to do pretty much what ever they want. We must implement a total transparency administration system, in which everything it is available online to the public: every data, every budget report, every contract, every purchase and acquisitions of the every agency from the national ministers or parliaments down to the last school, hospital, police station, fire department station, city-hall, prefectures, and other local government agencies, EVERYTHING must be made total transparent and available to all the peoples. Every agency must publish a monthly “activity report” with all the costs, all the results, all the contracts signed in a month, etc. All the corruption and abuses are made at the coverage of the dark. Total transparency it’s something that scares today politicians; they are there to make money not to govern.

Another thing which I think that must be implemented it’s an online permanent voting system. This type of system will allow anyone to vote at any given time a person or even a low. I consider today’s youtube or facebook, like true social experiments. They are provided with buttons called “like”, “dislike” and “share”. Why not every government or city-hall to have similar sites for law making and voting were every person can submit a law text and the community to vote for it, or make suggestions for improvements. A budget can be vote in this way. A question: how many of you will vote for an increase in military expenditure or for a reduction in educational budgets or healthcare? Not many. I’m not surprised that you are not allowed to vote in this manner; but only from time to time and only to choose a new Bush or a new Obama. In a normal society every politician can be dismissed at any time if the peoples will vote for him to go; every incorrect law will be abolish if the peoples vote in that way. All this will make not profitable for anyone who wants to invest in a political controlled system as today. Today’s politicians are not politicians at all, they are thieves. True politicians are not allowed on the scene.

Due to technological advances in every domain, our society must be prepared to face a situation in which 10 to 15% of the population will produce 100% of the goods and services needed for the whole population. This is not an easy task, but it can be done. With today model of thinking it is basically impossible for a society to function with an 85 – 90% unemployment rate. We have no choice if we want to survive; we must implement an “abundant way” of thinking.

A profit based economy it will not be relevant in the future from the monetary point of view. In an abundant society financial profit it's not possible. But a form of profit must be implemented as we now that this is necessary for a society to prosper, but it is not necessary to be financial. Economy will shift from a competitive way of doing business to a collaborative way of doing business. This will not exclude competition; competition will be only a small portion from the economic life thus creating a very well balanced type of economy.

We can observe that humanity has today EVERYTHING he needs to evolve to another political, economical and administrative level.

The key elements that must be embedded into a new design of a society must be:

- Total and complete transparency of the entire political and administrative systems, down to the very last detail. Every dollar taxed or gained, every dollar spent, every contract signed, every decision made, etc. (This will drastically eliminate the corruption).

- Allow anybody, every citizen, to create or suggest and propos text laws who will be vote for by the rest of community. (Eliminating the conception of "they make all the rules").

- Install an online and offline permanent voting system which will allow the direct participation at any time of every single citizen in the decision process. (A large number of people will participate and not just a group, as history clearly demonstrates that no group of people, even elected ones, can be fully trusted with administrative or political power).

- Allow that every elected official no matter the position, to be dismissed at any given moment by the public thru the permanent voting system if the citizens decide that he/her is not capable to continue in public administration. (Why keep for four years in the office a president that is more stupid than a retarded one – i.e. G.W. Bush Jr. or a malicious one like his father, or an incompetent like Bill Clinton).

- We must never allow that a few peoples or a group of peoples to seize the whole power. Of course we will have parliaments and representatives in the future, but we must also implement a powerful control system, controlled by the whole peoples, able to intervene at the slightest deviation. Such a system can only be formed by a permanent voting system implemented at any level local, regional, national and international.

This will create a true participatory democracy. Peoples will have for the first time in history the power to decide as a group, very close to what Aristotle imagined thousands of years ago. This will also make impossible for a group to gain all the power.

There are hundreds of different political parties throughout the world; yet not a single one of them do not includes into their political platforms some of the principles described above. That's because if they do, the owners will have no control whatsoever. Instead people will. So, if you're happened to win a revolution in whatever country or you'll start a political movement, or you'll start an "occupy something" movement; from my point of view the above key elements are what you should ask for.

An old "new" concept – Bioeconomics

One of the great minds of the last century who laid the foundations for understanding the true nature of economy was Romanian professor Nicolas Georgescu-Roegen and his contribution to "social-economics".

Nicolas Georgescu-Roegen's contribution to social economics was his development of a comprehensive theory of economy, society, and biophysical constraints. He called this new approach "bio-economics". He argued that the subject matter of economics was much broader than a description of market exchange and that the policy recommendations of economists were doomed to failure unless they were based upon an understanding of the biophysical and social context of consumption and production. The realization that resource constraints, social instability, and the social organization of economic activity are interrelated is now increasingly accepted, and it seems appropriate to revisit Georgescu-Roegen's so far neglected contribution to the matter.

Georgescu-Roegen's earlier work on consumer and production theory, and his concern with entropy and bioeconomics beginning with his 1966 introductory essay to a collection of his theoretical papers published in the volume "Analytical Economics" (Georgescu-Roegen 1966). From his earliest published work in the 1930s until his death in 1994, Georgescu-Roegen insisted that descriptions of economic phenomena, especially mathematical descriptions, must go beyond relative market prices. They must be grounded in reality, that is, in the physical and social universe of which humans are embedded.

It is this type of thinking which will help us to redesign and to re-equilibrate the whole society. As shown up to this point we live in a world based on lies, misinformation and manipulation. It is now the time to shift the course to a more realistic world. Our old concepts about society, politics and economics must evolve to the next level. We live in a world with three speeds: the science is highly advanced, the technology is highly advanced, but the politics and the economics are far behind on what is required at this time for this world. At the middle of these components lay the most important one: the social component. That means us, the people. In today model of thinking "we, the peoples" are the expendables, the neglected ones, the "externalities" as old school economics teach us.

There are three aspects of society: politics, economics and the social. As the theory of Nicolas Georgescu-Roengen postulates, we must integrate them into one because his mathematical formulas, scientifically demonstrates that all of them are intimate related and behave like one; otherwise we will end up in a conflict between the individual, the social, and the environmental values – which is pretty much what is happening today in the world.

A RESOURCE-BASED ECONOMY

A possible answer in this way, is presented by Mr. Jacque Fresco from "The Venus Project" and Mr. Peter Joseph from "The Zeitgeist Movement" in a straightforward approach to the redesign of a culture, in which the age-old inadequacies of war, poverty, hunger, debt, and unnecessary human suffering are viewed not only as avoidable, but totally unacceptable. This new social design works towards eliminating the underlying causes that are responsible for many of our problems. But, as stated previously, they cannot be eliminated within the framework of the present monetary and political establishment. Human behavior is subject to the same laws that govern all other physical phenomena. Our customs, behaviors, and values are byproducts of our culture. No one is born with greed, prejudice, bigotry and hatred - they

are learned. If the environment is unaltered similar problems will reoccur. These aspirations cannot be accomplished in a monetary based society of waste and human exploitation. With its planned obsolescence, neglect of the environment, outrageous military expenditures and the outworn methods of attempting to solve problems through the enactment of laws, these methods are bound to fail. Furthermore the belief that advanced technologies would lead to an improvement in the quality of life for most people is not the case in a monetary system. More and more companies are adopting the tremendous benefits of automation, resulting in increased production with fewer employees.

Corporations' short-term concern with profit will ultimately result in the demise of the world monetary based economies. If the monetary system continues to operate, we will be faced with the condition of more technological unemployment, today referred to as downsizing. From 1990 to 1995, companies dismissed a staggering 17.1 million employees, many of these due to automation. Automation will continue to replace people well into the foreseeable future, resulting in the lack of purchasing power for these displaced workers. Despite expanding global markets, the human cost in terms of displaced workers and a disenfranchised populous, will inevitably bring about massive and unmanageable social problems.

During the 1930's, at the height of the Great Depression, the Roosevelt administration enacted new social legislation designed to minimize revolutionary tendencies and to address the problems of unemployment. Jobs were provided through the Works Progress Administration, Civilian Conservation Corps, National Recovery Act, transient camps, and Federal Arts projects. Ultimately, however, World War II pulled the U.S. out of that worldwide depression. If we permit current conditions to take their natural course, we will soon be faced with another international recession of potentially greater magnitude.

At the time of this depression the US had only 600 first class fighting aircraft at the beginning of World War II, we rapidly increased production to 90,000 planes per year. Did we have enough money to pay for the required implements of war? The answer is no. Neither did we have enough gold. But, we did have more than enough resources. It was the available resources and personnel that enabled the U. S. to achieve the production and efficiency required to win the war. Unfortunately, such an all-out effort is only considered in times of war or disaster.

We live in a culture that seems to work collectively only in response to a crisis. Only in times of war do we call upon and assemble interdisciplinary teams to meet a threat from human aggression. Only in times of national emergency do we do the same to resolve a natural or man-made threat. Rarely, if ever, do we employ a concerted effort to help find workable solutions to social problems. If we apply the same efforts of scientific mobilization toward social betterment as we do during a war or disaster, large-scale results could be achieved in a relatively short time.

The Earth is still abundant with resources. Today our practice of rationing resources through monetary methods is irrelevant and counter-productive to the well-being of people. Today's society has access to highly advanced technologies and can easily provide more than enough for a very high standard of living for all the earth's people. This is possible through the implementation of a resource-based economy.

Simply stated, a resource-based economy utilizes existing resources rather than money, and provides an equitable method of distribution in the most humane and efficient manner for the

entire population. It is a system in which all natural, man-made, machine-made, and synthetic resources would be available without the use of money, credits, barter, or any other form of symbolic exchange. A resource-based economy would utilize existing resources from the land and sea, and the means of production, such as physical equipment and industrial plants, to enhance the lives of the total population. In an economy based on resources rather than money, we could easily produce all of the necessities of life and provide a high standard of living for all.

To further clarify the concept of a resource based economy consider this example: A group of people is stranded on an island with enormous purchasing power including gold, silver and diamonds. All this wealth would be irrelevant to their survival if the island had few resources such as food, clean air, and water. Only when population exceeds the productive capacity of the land do problems such as greed, crime, and violence emerge. On the other hand, if people were stranded on an island that was abundant with natural resources producing more than the necessities for survival, then a monetary system would be irrelevant. It is only when resources are scarce that money can be used to control their distribution. One could not, for example, sell the air we breathe, the sand on the beach, or the salt water in the ocean to someone else on the island who has equal access to all these things. In a resource-based economy all of the world's resources would be held as the common heritage of all of the earth's people, thus eventually outgrowing the need for the artificial boundaries that separate people – this is the unifying imperative.

We must emphasize here that this approach to global governance has nothing whatever in common with the present aims of a corporate elite to form a world government with themselves and large corporations in control, and the vast majority of the world's population subservient to them. Globalization in a resource-based economy empowers each and every person on the planet to be the very best they can be, not to live in abject subjugation to a corporate governing body.

All social systems, regardless of political philosophy, religious beliefs, or social customs, ultimately depend upon natural resources, e.g. clean air and water, arable land, and the necessary technology and personnel to maintain a high standard of living. This can be accomplished through the intelligent and humane application of science and technology. The real wealth of any nation lies in its developed and potential resources and the people who are working toward the elimination of scarcity and the development of a more humane way of life. A resource-based economy would use technology to overcome scarce resources by utilizing renewable sources of energy; computerizing and automating manufacturing, inventory and distribution; designing safe, energy-efficient cities; providing universal health care and relevant education; and most of all, by generating a new incentive system based on human and environmental concern.

Unfortunately, today science and technology have been diverted from these ends for reasons of self-interest and monetary gain through the conscious withdrawal of efficiency, or through planned obsolescence. For example, it is an ironic state of affairs when the U. S. Department of Agriculture, whose function is to conduct research into ways of achieving higher crop yields per acre, pays farmers not to produce at full capacity while many people go hungry. Another example is the choice of some companies to illegally dump solid waste into oceans and rivers to save money, when more ecologically sound disposal methods are available. A third example is the failure of some industries to install electrostatic precipitators in their factories' smokestacks to prevent particulate matter from being released into the atmosphere,

even though the technology has been available for over 75 years. The monetary system does not always apply known methods that would best serve people and the environment.

In a resource-based economy, the human aspect would be of prime concern, and technology would be subordinate to this. This would result in a considerable increase in leisure time. In an economy in which production is accomplished primarily by machines, and products and services are available to all, the concepts of "work" and "earning a living" would become irrelevant. But if the human consequences of automation are unresolved, as they are today, then it renders all the advances of science and technology of much less significance.

The utilization of today's high speed and large capacity computer systems, otherwise known as the "Information Superhighway" or Internet, could assist us in defining the variables and parameters required for the operation of a resource-based economy that conforms to environmental needs. Over-exploitation of resources would be unnecessary and surpassed.

Many people believe that there is too much technology in the world today, and that technology is the major cause of our environmental pollution. This is not the case. Rather, it is the abuse and misuse of technology that should be our major concern. In very simple terms, a hammer can be used to construct a building, or to kill another person. It is not the hammer that is the issue, but how it is used.

Cybernation, or the application of computers and automation to the social system, could be regarded as an emancipation proclamation for humankind if used humanely and intelligently. Its thorough application could eventually enable people to have the highest conceivable standard of living with practically no labor. It could free people for the first time in human history from a highly structured and outwardly imposed routine of repetitive and mundane activity. It could enable one to return to the Greek concept of leisure, where slaves did most of the work and men had time to cultivate their minds. The essential difference is that in the future, each of us will command more than a million slaves - but they will be mechanical and electrical slaves, not fellow human beings. This will end forever the degrading exploitation of any human being by another so that he or she lives an abundant, productive, and less stressful life. Perhaps the greatest aid in enhancing the survival of the human race is the introduction of cybernation, the electronic computer, and artificial intelligence, which may very well save the human race from its own inadequacies.

A resource-based economy calls for the redesign of our cities, transportation systems, and industrial plants so that they are energy efficient, clean, and conveniently provide the needs of all people both materially and spiritually. These new cybernated cities would have their electrical sensors' autonomic nervous system extended into all areas of the social complex. Their function would be to coordinate a balance between production and distribution and to operate a balance-load economy. Decisions would be arrived at on the basis of feedback from the environment. Despite today's mania for national security, and subsequent intrusions into everyone's personal affairs, in a world-wide resource-based economy where no one need take from another, it will be considered socially offensive and counterproductive for machines to monitor the activities of individuals. In fact, such intrusion would serve no useful purpose.

To further understand the operation of cybernation in the city system, for example, in the agricultural belt the electronic probes imbedded in the soil would automatically keep a constant inventory of the water table, soil conditions, nutrients, etc. and act appropriately without the need for human intervention. This method of industrial electronic feedback could be applied to the entire management of a global economy.

All raw materials used to manufacture products can be transported directly to the manufacturing facilities by automated transportation "sequences" such as ships, monorails, trains, pipelines, and pneumatic tubes, and the like. All transportation systems are fully utilized in both directions. There would be no empty trucks, trains, or transport units on return trips. There would be no freight trains stored in yards, awaiting a business cycle for their use. An automated inventory system would be connected to both the distribution centers and the manufacturing facilities, thus coordinating production to meet demand and providing a constant evaluation of preferences and consumption statistics. In this way a balanced-load economy can be assured and shortages, over-runs, and waste could be eliminated.

The method for the distribution of goods and services in a resource-based economy without the use of money or tokens could be accomplished through the establishment of distribution centers. These distribution centers would be similar to a public library or an exposition, where the advantages of new products can be explained and demonstrated. For example, if one were to visit Yellowstone National Park, one could check out a still or video camera on-site, use the camera, and if they do not want to keep it, return it to another readily accessible distribution center or drop-off point, thus eliminating the individual's need to store and maintain the equipment.

In addition to computerized centers, which would be located throughout the various communities, there would be 3-D, flat-screen televised imaging capabilities right in the convenience of one's own home. If an item is desired, an order would be placed, and the item could be automatically delivered directly to a person's place of residence.

With the infusion of a resource-based, world economy and an all-out effort to develop new, clean, renewable sources of energy, (such as geothermal, controlled fusion, solar heat concentrators, photovoltaics, wind, wave, tidal power, and fuel from the oceans), we will eventually be able to have energy in unlimited quantity that could serve civilization for thousands of years.

To better understand the meaning of a resource-based economy consider this: If all the money in the world were to suddenly disappear, as long as topsoil, factories, and other resources were left intact, we could build anything we chose to build and fulfill any human need. It is not money that people need, but rather it is freedom of access to most of their necessities without ever having to appeal to a government bureaucracy or any other agency. In a resource-based economy money would become irrelevant. All that would be required are the resources, manufacturing, and distribution of the products.

In a monetary system purchasing power is not related to our capacity to produce goods and services. For example, in a recession there are CD's in store windows and automobiles in car lots, but many people do not have the purchasing power to buy them. The earth is still the same place; it is just the rules of the game that are obsolete and create strife, deprivation, and unnecessary human suffering.

In today's culture of profit, we do not produce goods based on human need. We do not build houses based on population needs. We do not grow food to feed people. Industry's major motivation is profit.

Take the automobile. In order to service conventional automobiles today we have to remove a great deal of hardware before we can get to the engine. Why are they made so complicated? This reason is simply because ease of repair is not the concern of the manufacturers. They do

not have to pay to service the car. If they did, I can assure you, they would design automobiles that consist of modular components that could be easily disengaged, thus facilitating easier access to the engine.

Such construction would be typical in a resource-based economy. Many of the components in the automobile would be easily detachable to save time and energy in the rare case of repair, because no one would profit by servicing automobiles or any other products. Consequentially all products would be of the highest quality, and they would be simplified for convenience of service. Automotive transport units engineered in this way can easily be designed to be service-free for many years. All the components within the car could be easily replaced when needed with improved technologies. Eventually, with the development of magnetically suspended bearings, lubrication and wear would be relegated to the past. Proximity sensors in the vehicles would prevent collisions, further reducing servicing and repair requirements.

This same process would be carried out for all other products. All industrial devices would be designed for recycling. However, the life span of products would be significantly increased through intelligent and efficient design, thereby reducing waste. There would be no "planned obsolescence," where products are deliberately designed to wear out or break down. In a resource-based economy technology intelligently and efficiently applied will conserve energy, reduce waste, and provide more leisure time. During the transition, the workweek could be staggered thus eliminating traffic jams or crowding in all areas of human activity, including beaches and recreation areas.

Most packaging systems would be standardized, requiring less storage space and facilitating easy handling. To eliminate waste such as newsprint, books, and other publications, these could be replaced, for example, by an electronic process in which a light-sensitive film is placed over a monitor or TV, producing a temporary printout. This material would be capable of storing the information until it is deleted. This would conserve our forests and millions of pounds of paper, which is a major part of the recycling process. Eventually, most paperwork would no longer be required, i.e. advertising, money, mail, newspaper, phonebook.

As we outgrow the need for professions that are based on the monetary system, such as lawyers, accountants, bankers, insurance companies, advertising, sales personnel, and stockbrokers, a considerable amount of waste and non productive personnel could be eliminated. Enormous amounts of time and energy would also be saved by eliminating the duplication of competing products. Instead of having hundreds of different manufacturing plants and all the paperwork and personnel that are required to turn out similar products, only very few of the highest quality would be needed to serve the entire population. In a resource-base economy planned obsolescence would not exist.

MOTIVATION, INCENTIVE & CREATIVITY

It is claimed that the so-called free-enterprise system creates incentive. This may be true, but it also perpetuates greed, embezzlement, corruption, crime, stress, economic hardship, and insecurity. In addition, the argument that the monetary system and competition generate incentive does not always hold true. Most of our major developments in science and technology have been the result of the efforts of very few individuals working independently and often against great opposition. Such contributors as Goddard, Galileo, Darwin, Tesla, Edison, and Einstein were individuals who were genuinely concerned with solving problems and improving processes rather than with mere financial gain. Actually, very often there is

much mistrust in those whose incentive is entirely motivated by monetary gain, this can be said for lawyers, businessmen, salesman and those in just about any field.

Some may question that if the basic necessities are accessible to all people, what will motivate them? This is tantamount to saying that children reared in affluent environments, in which their parents provide all the necessary food, clothing, shelter, nutrition, and extensive education, will demonstrate a lack of incentive or initiative. There is no evidence to support this fallacious assumption. There is overwhelming evidence to support the facts that malnutrition, lack of employment, low wages, poor health, lack of direction, lack of education, homelessness, little or no reinforcement for one's efforts, poor role models, poverty, and a bleak prospect for the future do create monumental individual and social problems, and significantly reduce an individual's drive to achieve.

The aim of a recourse based economy is to encourage and develop a new incentive system, one no longer directed toward the shallow and self-centered goals of wealth, property, and power. These new incentives would encourage people to pursue different goals, such as self-fulfillment and creativity, the elimination of scarcity, the protection of the environment, and the alleviation of suffering in their fellow human beings.

People, provided with good nutrition in a highly productive and humane society, will evolve a new incentive system unattainable in a monetary system. There would be such a wealth of new wonders to experience, explore, and invent that the notion of boredom and apathy would be absurd. Incentive is often squelched in our present culture, where a person dare not dream of a future that seems unattainable to him or her. The vision of the future that too many see today consists of endless days of mindless toil, and a wasted life, squandered for the sake of merely earning enough money to survive from one day to the next.

Each successive period in time creates it's own incentive system. In earlier times the incentive to hunt for food was generated by hunger; the incentive to create a javelin or a bow and arrow evolved as a process supportive to the hunt. With the advent of an agrarian society the motivation for hunting was no longer relevant, and incentives shifted toward the cultivation of crops, the domestication of animals, and toward the protection of personal property. In a civilization where people receive food, medical care, education, and housing, incentives would again undergo change and would be redirected: People would be free to explore other possibilities and lifestyles that could not be anticipated in earlier times.

The nature of incentive and motivation is dependent upon many factors. We know, for example, that the physical and mental health of an individual is directly related to that person's sense of self-worth and well-being. Furthermore, we know that all healthy babies are inquisitive; it is the culture that shapes the particular kind of inquiry and motivation. For example, in India and other areas of great scarcity there are many people who are motivated not to accumulate wealth and material property; they renounce all worldly goods. Under the conditions in which they find themselves, this is not difficult. This would seem to be in direct conflict with other cultures that value the accumulation of material wealth. Yet, which view is more valid? Your answer to this question would depend upon your frame of reference, that is, your culturally influenced value-system.

Many experimental psychologists and sociologist have shown that the effects of environment play a major role in shaping our behavior and values. If constructive behavior is appropriately rewarded during early childhood, the child becomes motivated to repeat the rewarded behavior, provided that the reinforcement meets the individual needs of the child. For

example, if a football were given to a child who is interested in botany, this would not be a reward from the child's point of view. It is very unfortunate that so many individuals in our society today are not appropriately rewarded for their creative efforts.

In some instances individuals are seemingly able to overcome the shortcomings of their environment in spite of an apparent lack of positive reinforcements. This is due to their own "self-reinforcement" in which they can see an improvement in whatever activity they are engaged in, and achieve an intrinsic sense of accomplishment; their reinforcement does not depend on the approval of others, nor on monetary reward. Those children who do depend on the approval of a group tend to be afflicted with a sense of low self-esteem, while children who do not depend on group approval usually acquire a sense of self-approval by improving upon their own performance.

Throughout history, there have been many innovators and inventors who have been ruthlessly exploited, ridiculed, and abused while receiving very little financial reward. Yet, they endured such hardship because they were motivated to learn and to discover new ways of doing things. While creative individuals like Leonardo de Vinci, Michelangelo, and Beethoven received the generous sponsorship of wealthy patrons, this did not diminish their incentive in the least. On the contrary, it empowered them to reach new heights of creativity, perseverance and individual accomplishments.

This is a difficult concept to grasp because most of us have been brought up with the value system that has given us a set of notions about the way that we ought to think and behave about money and motivation. These are based upon ancient ideas that are really irrelevant today.

It has been stated that war generates creativity. This deliberately falsified concept has no basis in fact. It is government financing of war industries that helped to develop many new materials and inventions. There is no question that a saner society would be able to create a more constructive incentive system if our knowledge of the conditions that shape human motivation were applied.

In this new social arrangement of a resource-based economy, motivation and incentive will be encouraged through recognition of, and concern for, the needs of the individual. This means providing the necessary environment, educational facilities, nutrition, health care, compassion, love, and security that all people need.

THE HUMAN ASPECT

In today's society, there is much concern about the dissolution of the conventional core family structure, and the societal values associated with it. The family is seen as the primary, most basic venue for acquiring such life skills as caring, sociability, responsibility, stability and concern for others. The increasing unrest and lack of direction exhibited by many young people today seem to validate these concerns.

At present, it is necessary for both husbands and wives to work. Monetary economics have to a large extent undermined family cohesion. Parents lack adequate time to spend with their children, and they are constantly stressed by ever-rising medical bills, insurance payments, educational expenses, and the high cost of living. It is in this area that one of the most profound benefits of this new civilization could be realized. The proposed shorter workdays would provide more time for family relationships. Free access to goods and services would

make the home a much more pleasant place, with the removal of economic stress that causes so much family turmoil.

With the enhanced level of sociability that would naturally come from not having to compete for access to goods and services, we would see a tendency toward extension of the family unit into the community. As may already be observed in other cultures, the rearing and development of children would become the responsibility of both the family and the community at large.

With the elimination of debt, the fear of losing one's job will no longer be a threat; this assurance, combined with education on how to relate to one another in a much more meaningful way, could considerably reduce conflict and stress both mentally and physically. When education and resources are available to all without a price tag, there would be no limit to the human potential.

The fear of uniform behavior in a cybernated resource-based economy of the future is unfounded. The only uniformity one would find would be a concern for the environment and the importance of extending maximum courtesy to all nations and to one another. All would likewise share an intense curiosity for all that is new and challenging. With a better understanding, people could possess a flexibility of outlook unknown in previous times, free of bigotry and prejudice. In addition, the people of this innovative society would have concern for their fellow human beings, and for the protection, maintenance, and stewardship of the Earth's natural environment. Additionally, everyone, regardless of race, color, or creed would have equal access to all of the amenities that this highly productive culture could supply.

In more advanced and humane systems of education people would acquire this new type of value system. They would also realize the many advantages of cooperation rather than competition. In a society without vested interest it would be impossible to harness the talents of scientists and technicians to engage in weapons research or any other socially hostile endeavor. We call this approach "functional morality." This newer, more humane, and more productive approach would advocate finding non-military solutions to international differences. This calls for a global view, which would be a considerable improvement over narrow national and self-interests. We could use knowledge and information as tools that would be surrendered when evidence of more appropriate methods are introduced.

Some people question the morality of seemingly receiving something for nothing. At a recent college lecture one student was opposed to the idea of "getting something for nothing." I then asked him if he were paying his own way through school, or if his parents were paying for him. He admitted that his parents were. I also pointed out that if he really did believe that people should not receive something for nothing, then in the event of the death of his rich relative he would prefer that their inheritance be left to the heart or cancer fund, rather than being passed on to him. But the student, needless to say, was opposed to this idea.

By merely being born in a developed country, we have access to many things that we put no effort whatsoever towards, such as the telephone, the automobile, electricity, running water, etc. These gifts of human ingenuity and invention do not degrade our lives, but rather they enrich and enhance us. What degrades us is our lack of concern for those unfortunate enough to experience poverty, hunger, and homelessness. The social designs that are proposed in this writing merely provide the opportunity for individuals to develop their fullest potential in whatever endeavor they choose without the fear of loss of individuality or submission to uniformity.

A resource-based economy by definition includes the participation of all people in its benefits. In a monetary system there is an inherent reason for corruption and that is to gain a competitive advantage over someone else. Without vested interests or the use of money, there is no benefit to squelching one's opinion or falsifying information or taking advantage of anyone. There would be no need for any underlying rigid social barriers that would limit the participation of anyone or restrain the introduction of new ideas. The main objective is the access of information and the availability of goods and services to all people. This would enable people to be prepared to participate in the exciting challenges of this new society

A resource-based economy could create an environment that would encourage the widest range of individuality, creativity, constructive endeavor, and cooperation without any kind of elitism, technical or otherwise. Most significantly, a resource-based economy would generate a far different incentive system, one based on human and environmental concern. This would not be a uniform culture but one that is designed to be in a constant process of growth and improvement.

As we enhance the lives of others, protect our environment, and work toward abundance, all our lives can become richer and more secure. If these values were put into practice it would enable all of us to achieve a much higher standard of living within a relatively short period of time--one that would be continuously improved. At a time when commercial institutions no longer exist, the necessity for prisons, lawyers, advertisements, banks and the stock exchange will serve no useful purpose.

In the society of the future, in which the monetary system of scarcity has been surpassed by a resource based economy and most physical and creative needs are met, private ownership as we know it would cease to be a necessity to protect one's access to goods and services. The concept of ownership would be of no advantage whatsoever in a society of abundance.

Although this is difficult for many to imagine, even the wealthiest person today would be immensely better off in the highly productive resource-based society. Today in developed countries the middle class live far better than kings and the wealthy of times past. In a resource based economy everyone would live richer lives than the powerful and wealthy of today, not only materially but spiritually as well.

People would be free to pursue whatever constructive field of endeavor they choose without any of the economic pressures, restraints, debts and taxation that are inherent in the monetary system of today. By constructive endeavor, we mean anything that enhances the lives of the individual and others while protecting the global environment. When education and resources are available to all without a price tag, there would be no limit to the human potential. With these major alterations people would be able to eventually live longer, more meaningful, healthier and productive lives. In such a society, the measure of success would be based on the fulfillment of one's individual pursuits rather than the acquisition of wealth, property, and power.

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Today we are imprisoned in a prison with invisible walls, with invisible chains in the form of debt. Fortunately, with every day passing, more and more peoples start to view the walls and slowly awake. It is those peoples who will come with the most extraordinary concepts and innovations in order to create a new society; create a new world: A World Based On Truth.

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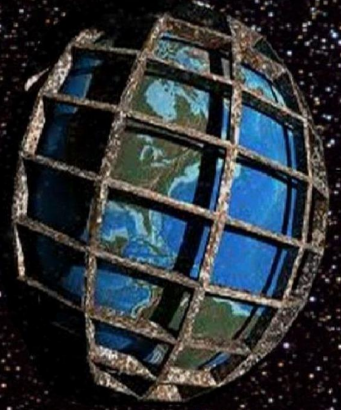
(2012, Bucharest - Romania)

A World Based on Lies



A nation-state taxes its own citizens, while an empire taxes other nation-states. The history of empires, from Greek and Roman, to Ottoman and British, teaches that the economic foundation of every single empire is the taxation of other nations or of their subjects. The imperial ability to tax has always rested on a better and stronger economy, and as a consequence, a better and stronger military that peacefully or militarily enforced the tax. One part of those taxes went to improve the living standards of the empire and the other part went to reinforce the military dominance necessary to enforce those taxes.

Historically, taxing the subject state has been in various forms, usually gold and silver, where those were considered money, but also slaves, soldiers, crops, cattle, or other agricultural and natural resources, whatever economic goods the empire demanded and the subject-state could deliver. Historically, the taxation has always been direct: the subject state handed over the money (gold/silver) or the economic goods directly to the empire.

For the first time in history, in the twentieth century, America was able to tax the world indirectly, not by enforcing the direct payment of taxes like all of its predecessor empires did, but by distributing its own currency, the U.S. Dollar, to other nations in exchange for goods with the intended consequence of devaluing over time those dollars and paying back later each dollar with less economic goods. The difference between the value of the dollar during the initial purchase and the devalued dollar during the repayment was the U.S. imperial tax. Here is how this happened.

Early in the 20th century, the U.S. economy began to dominate the world economy. At the time the U.S. dollar was tied to gold, so that the dollar neither increased, nor decreased its value, but was always convertible into the same amount of gold. The Great Depression with its the preceding inflation from 1921 to 1929 substantially increased the amount of paper money in circulation without the correspondent increase in gold. This rendered the effective backing of the U.S. dollar by gold impossible. As a consequence, President Franklin Delano Roosevelt decoupled the dollar from gold in 1932. Up to this point, the U.S. may have well dominated the world economy, but from an economic point of view, it was not technically an empire. The fixed value of the dollar for gold did not allow the Americans to extract economic benefits from other countries by supplying them with gold-backed dollars.

Anything is possible, even the impossible!

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